Service
Service
Service

Service Manual

Horizontal Frequency
30 kHz to 81 kHz

Table of Contents

Description	Page	Description	Page
Table Of Contents	1	5.2.Electrical Block Diagram	24
Revision List	2	6. Mechanical Instructions	26
Important Safety Notice	3	7. Schematic Diagram	32
1.Monitor Specifications	4	7.1 Main Board	32
2.LCD Monitor Description	5	7.2 Power Board	36
3.Operation Instructions	6	8. PCB Layout	38
3.1.General Instructions	6	8.1. Main Board	38
3.2.Control Buttons	7	8.2. Power Board	41
3.3 Adjusting the Picture	9	8.3. Key Board	43
4. Input/Output Specification	15	9. Maintainability	44
4.1.Input Signal Connector	15	9.1.Equipments and Tools Requirement	44
4.2.Factory Preset Display Modes	16	9.2.Trouble Shooting	45
4.3.Power Supply Requirements	16	10.White-Balance, Luminance adjustment	51
4.4.Panel Specification	17	11.ISP Instruction	52
4.5.Definition of Pixel Defects	18	12. Monitor Exploded View	56
5.Block Diagram	22	13. BOM List	57
5.1.Software Flow Chart	22	14. Different Parts List	67

SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFOMER FOR THIS UNIT WHEN SERVICING

Revision List

Revision	Release Date	Revise history	TPV model
A00	Apr.-09-2007	Initial Release	T76AM9HKFDDDN T76AM9HKFDDGN T76SM9HKFDDDN T76SM9HKFDDGN

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all AOC Company Equipment. The service procedures recommended by AOC and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. AOC could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, AOC has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by AOC must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.
Hereafter throughout this manual, AOC Company will be referred to as AOC.

WARNING
Use of substitute replacement parts, which do not have the same, specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from AOC. AOC assumes no liability, express or implied, arising out of any unauthorized modification of design.

Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:
DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with backlight unit
-Must mount the module using mounting holes arranged in four corners.
-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
-Make certain that treatment person’s body is grounded through wristband.
-Do not leave the module in high temperature and in areas of high humidity for a long time.
-Avoid contact with water as it may a short circuit within the module.
-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

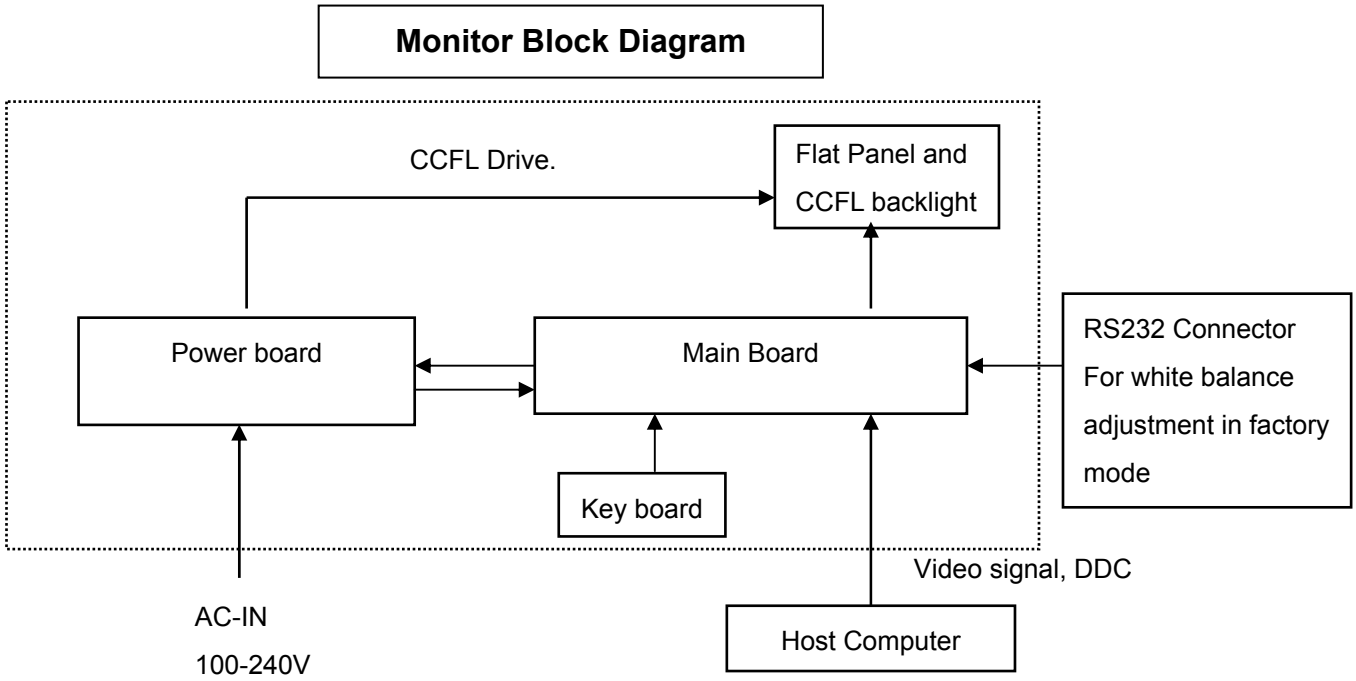
1. Monitor Specifications

LCD Panel	Screen type	Active matrix - TFT LCD
	Panel Type	M170EG01 VD00 ZBD DELL AUO
	Size	17 inches (17-inch diagonal viewable image size)
	Pixel pitch	0.264 mm
	Viewable angle	Viewing angle 160 (vertical) typ, 160 (horizontal) typ
	Response time	5ms typical(Black to White)
Input	Video	R, G, B Analog Interface, DVI digital Interface
	Separate Sync	H/V TTL
	H-Frequency	30 kHz to 81 kHz (automatic)
	V-Frequency	56 Hz to 76 Hz (automatic)
Display Colors		16.7M
Dot Clock		135MHz (Max.)
Max. Resolution		1280 x 1024 at 75 Hz
Plug & Play		VESA DDC
EPA ENERGY STAR®	ON Mode	34 W (typical)
	OFF Mode	<1W
Input Connector		15-pin D-subminiature, blue connector
Maximum Screen Size		Horizontal : 337.9 mm (13.3 inches) Vertical: 270.3 mm (10.6 inches)
Power Source		100 to 240 VAC / 50-60 Hz / 1.5A (RMS) Max.
Environmental Considerations		Operating Temp: 5° to 35°C Operating Humidity: 10% to 80% Storage Temp.: -20° to 60°C
Weight		Weight with packaging: 12.9 lbs (5.85kg) Weight with stand assembly and cables: 10.2 lbs (4.63 kg) Weight without stand assembly: 8. 1 lbs (3.69 kg)

2. LCD Monitor Description

The LCD monitor will contain a main board, power board, key board, which house the flat panel control logic, brightness control logic and DDC.

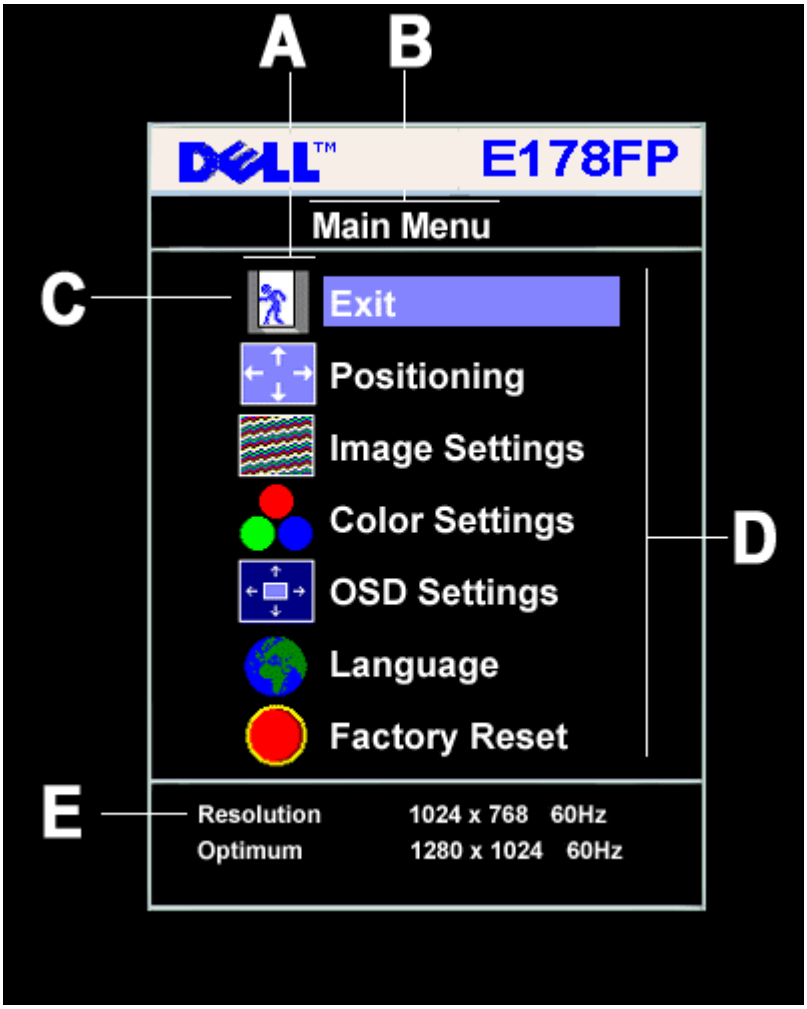
The power board will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.



3. Operation instructions

3.1 General Instructions

1. With the menu off, press the **MENU** button to open the OSD system and display the main features menu.



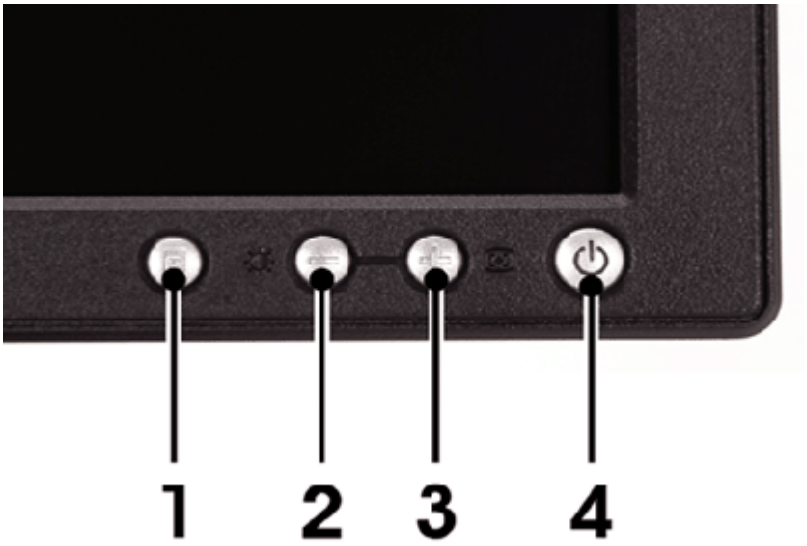
A	Function icons	**B**	Main Menu	**C**	Menu icon
D	Sub-Menu name	**E**	Resolution		

2. Press the - and + buttons to move between the function icons. As you move from one icon to another, the function name is highlighted to reflect the function or group of functions (sub-menus) represented by that icon. See the table below for a complete list of all the functions available for the monitor.

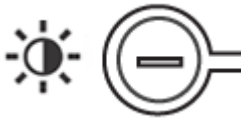
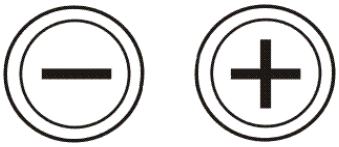
3. Press the **MENU** button once to activate the highlighted function. Press -/+ to select the desired parameter, press menu to enter the slidebar, then use the - and + buttons, according to the indicators on the menu, to make your changes.

4. Press the **MENU** button once to return to the main menu to select another function or press the **MENU** button two or three times to exit from the OSD.

3.2 Control Buttons



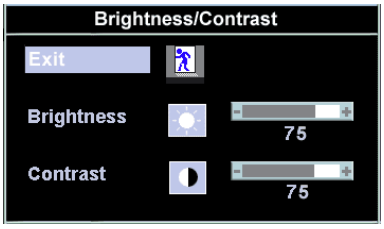
1	Menu selection button
2	Brightness Contrast / Down(-) button
3	Auto-Adjust / Up(+) button
4	Power On/Off button with LED indicator

1	**MENU**	The 'MENU' button is used to open the on-screen display (OSD), select function icons, exit from menus and sub-menus, and to exit the OSD. See Accessing the Menu System
2	 **Brightness/Contrast Hot Key**	Use this button for direct access to the 'Brightness' and 'Contrast' control menu.
2,3	 **Down (-) and Up (+)**	Use these buttons to adjust (decrease/increase ranges) items in the OSD. **NOTE:** You can activate automatic scroll feature by pressing and holding either + or - button.

3	 **Auto Adjust**	Use this button to activate automatic setup and adjustment. The following dialog will appear on screen as the monitor self-adjusts to the current input: Auto Adjustment button allows the monitor to self-adjust to the incoming video signal. After using 'Auto Adjustment', you can further tune your monitor by using the 'Pixel Clock' and 'Phase' controls in the OSD. **NOTE**: Auto Adjust will not occur if you press the button while there are no active video input signals, or attached cables.
4	 **Power Button and Indicator**	The green LED indicates the monitor is on and fully functional. An amber LED indicates DPMS power save mode. The Power button turns the monitor on and off.

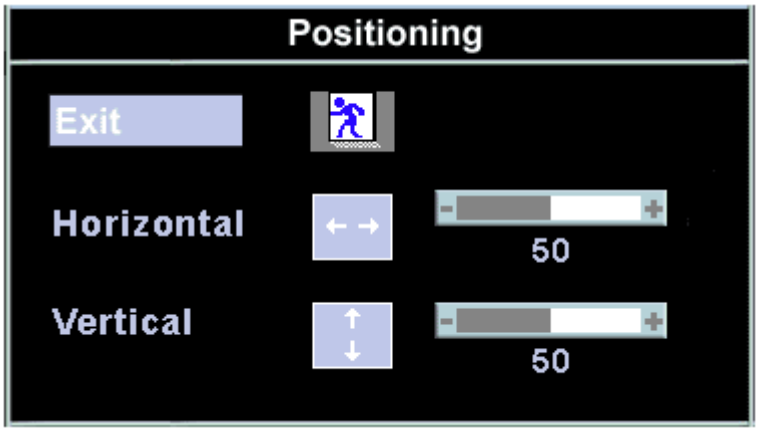
On Screen Menu/Display (OSD)

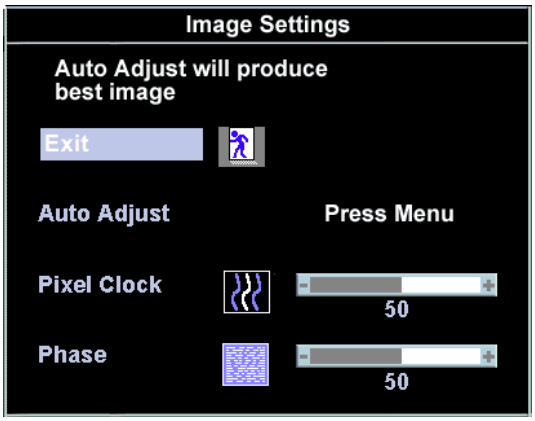
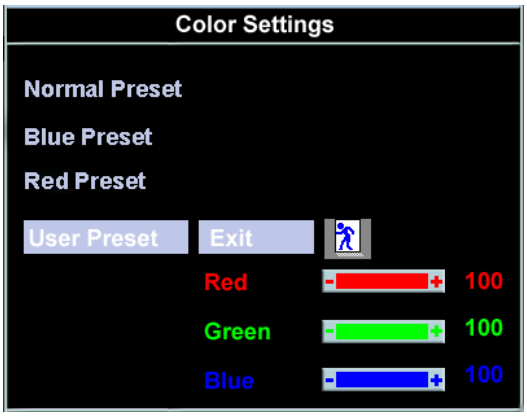
Direct-Access Functions

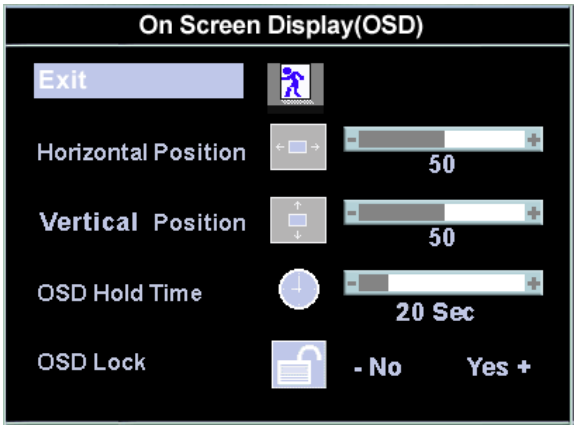
Function	**Adjustment Method**
Auto adjustment	Use this button to activate automatic setup and adjustment. The following dialog will appear on screen as the monitor self-adjusts to the current input: Auto Adjustment button allows the monitor to self-adjust to the incoming video signal. After using 'Auto Adjustment', you can further tune your monitor by using the 'Pixel Clock' and 'Phase' controls in the OSD. **NOTE**: Auto Adjust will not occur if you press the button while there are no active video input signals, or attached cables.
Brightness / Contrast  	With the menu off, press button to display the 'Brightness' and 'Contrast' adjustment menu. The 'Brightness' function adjusts the luminance of the flat panel. Adjust 'Brightness' first, and then adjust 'Contrast' only if further adjustment is

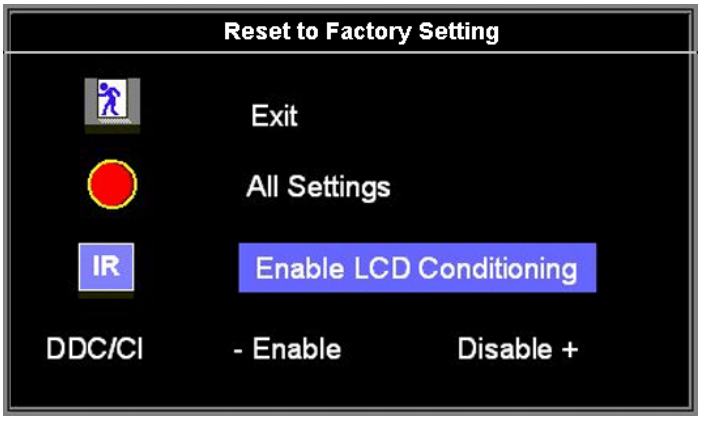
	necessary. "+" increase 'brightness' " - "decrease 'brightness' The 'Contrast' function adjusts the degree of difference between darkness and lightness on the display screen. "+" increase the 'contrast' "-" decrease the 'contrast'

3.3 Adjusting the Picture

Icon	Menu and Submenus	Description
	Exit	This is used to exit out of the Main Menu.
	Positioning: **Horizontal** **Vertical**	'Positioning' moves the viewing area around on the monitor screen. When making changes to either the **Horizontal** or **Vertical** settings, no changes occur to the size of the viewing area; the image gets shifted based on what you select. Minimum is '0' (-). Maximum is '100' (+). 
 	Image settings: **Auto Adjust**	Even though your computer system can recognize your new flat panel monitor on startup, the 'Auto Adjustment' function will optimize the display settings for use with your particular setup. **NOTE**: In most cases, 'Auto Adjust' produces the best image for your configuration; you can directly access this function via Auto Adjustment

		hotkey.
	Pixel Clock	The **Phase** and **Pixel Clock** adjustments allow you to more closely adjust your monitor to your preference. Select Image Settings in the main OSD to access these settings. Use the - and + buttons to adjust interference. Minimum: 0 ~ Maximum: 100
	Phase	If satisfactory results are not obtained using the **Phase** adjustment, use the **Pixel Clock** adjustment and then use Phase again.  **NOTE**: This function may change the width of the display image. Use the 'Horizontal' function of the 'Position' menu to center the display image on the screen.
	Color Settings	Adjusts the color temperature and saturation. 
	Normal Preset	Selected to obtain the default (factory) color settings.
	Blue Preset	This color setting gives a bluish tint and is used for text-based applications such as spreadsheets, programming, text editors, and so on.
	Red Preset	This color setting gives a reddish tint and is used for color-intensive applications such as photograph image editing, multimedia, movies, and so on.

	User Preset	Use the +/- buttons to increase or decrease each of the three colors (R, G, B) independently, in single digit increments, from '0' to '100'. **NOTE**: 'Color temperature' is a measure of the 'warmth' of the image colors (red/green/blue). The two available presets ('Blue' and 'Red') favor blue and red accordingly. Select each one to see how each range suits your eye; or utilize the 'User Preset' option to customize the color settings to your exact choice.
	OSD Settings:	Each time the OSD opens, it displays in the same location on the screen. 'OSD Settings' (horizontal/vertical) provides control over this location.
	Horizontal Position	**-** and + buttons move OSD to the left and right.
	Vertical Position	**-** and + buttons move OSD down and up.
	OSD Hold Time	The OSD stays active for as long as it is in use. 'OSD Hold Time': Sets the length of time the OSD will remain active after the last time you pressed a button. Use the **-** and + buttons to adjust the slider in 5 second increments, from 5 to 60 seconds **NOTE**: Default 'OSD hold time' is 20 seconds.
	OSD Lock	Controls user access to adjustments. When 'Yes' (+) is selected, no user adjustments are allowed. All buttons, except Menu, are locked. All buttons can be locked or unlocked. Press the 'Menu' button for over 15 seconds to unlock the OSD menu.  **NOTE**: When the OSD is locked, pressing the 'Menu' button will take the user directly to the 'OSD settings' menu, with 'OSD Lock' preselected on entry. Select 'No'(-) to unlock and allow user access to all applicable settings.

	Language	Language sets the OSD to display in one of five languages (English, Español, Français, Deutsch, and Japanese). **NOTE**: The language chosen affects only the language of the OSD. It has no effect on any software running on the computer.
	Factory Reset:	**Factory Reset** returns the settings to the factory preset values for the selected group of functions.  **Exit** is used to exit out of **Factory Reset** menu. For **All settings**, all user adjustable settings are reset at one time except **Language settings**. **IR** — This feature will help reduce minor cases of image retention. **Enable LCD Conditioning:** If an image appears to be stuck on the monitor, select **LCD Conditioning** to help eliminate any image retention. Using the LCD Conditioning feature may take several hours. Severe cases of image retention are known as burn-in, the LCD Conditioning feature does not remove burn-in. **NOTE:** Use LCD Conditioning only when you experience a problem with image retention. Below warning message appears once user select “Enable LCD Conditioning”:

This feature will help reduce minor cases of image retention.
Depending on the degree of image retention, the program may take some time to run.
Do you want to continue?
- No
Yes +

NOTE: Press any button on the monitor to terminate LCD Conditioning at any time.

DDC/CI (Display Data Channel/Command Interface) allows you to adjust the monitor parameters (brightness, color, balance, etc.) via software applications on your PC.

Select **Disable** to disable this feature.
For best user experience and optimum performance of your monitor, keep this feature enabled.

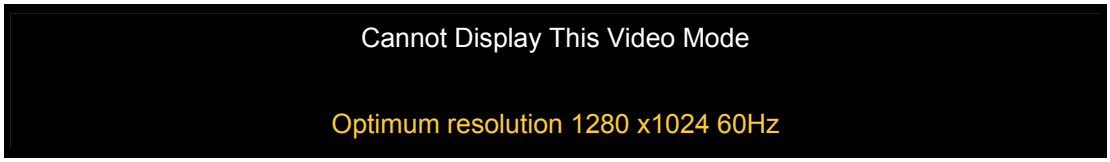
NOTE: If user select 'disable' for DDC/CI, the warning message will appear on screen. Then user can select Yes or No according to need.

Automatic Save

With the OSD open, if you make an adjustment and then either proceed to another menu, or exit the OSD, the monitor automatically saves any adjustments you have made. If you make an adjustment and then wait for the OSD to disappear the adjustment will also be saved.

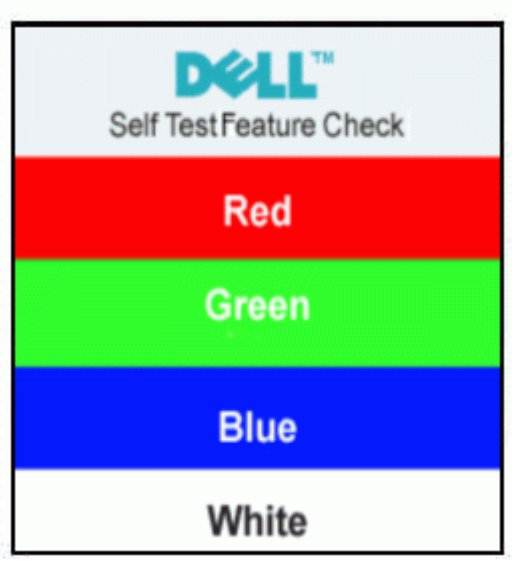
OSD Warning Messages

A warning message may appear on the screen indicating that the monitor is out of sync.



This means that the monitor cannot synchronize with the signal that it is receiving from the computer. Either the signal is too high or too low for the monitor to use. See Specifications for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1280 X 1024 @ 60Hz.

NOTE: The floating 'Dell - self-test Feature Check' dialog appears on the screen if the monitor cannot sense a video signal.



Occasionally, no warning message appears, but the screen is blank. This could also indicate that the monitor is not synchronizing with the computer.
See Troubleshooting for more information.

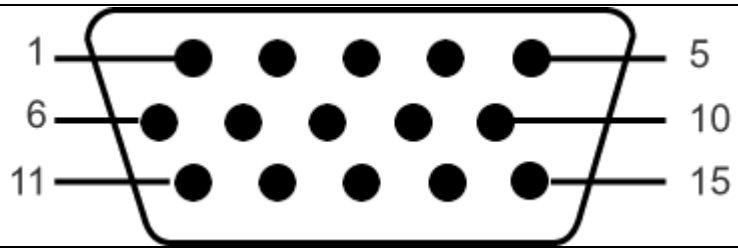
4. Input/Output Specification

4.1 Input Signal Connector

VGA Connector:

Pin No.	Description	Pin No.	Description
1	Video-Red	9	Computer 5V/3.3V
2	Video-Green	10	GND-sync
3	Video-Blue	11	GND
4	GND	12	DDC data
5	Self-test	13	H-sync
6	GND-R	14	V-sync
7	GND-G	15	DDC clock
8	GND-B		

VGA Connector layout



4.2 Factory Preset Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/Vertical)
VGA, 720 x 400	31.5	70.1	28.3	-/+
VGA, 640 x 480	31.5	60.0	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	37.9	60.3	40.0	+/+
VESA, 800 x 600	46.9	75.0	49.5	+/+
VESA, 1024 x 768	48.4	60.0	65.0	-/-
VESA, 1024 x 768	60.0	75.0	78.8	+/+
VESA, 1152 x 864	67.5	75.0	108.0	+/+
VESA, 1280 x 1024	64.0	60.0	108.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+

4.3 Power Supply Requirements

A/C Line voltage range	: 100 V ~ 240 V± 10 %
A/C Line frequency range	: 50 ± 3Hz, 60 ± 3Hz
Input Voltage transients	: 280 volts AC for 10 sec @40℃
Current	: 0.6A max. at 100V, 0.35A max. at 240 V
Peak surge current	: < 60A peak at 240 VAC and cold starting : < 30A peak at 120VAC and cold starting
Leakage current	: < 3.5mA
Power line surge	: No advance effects (no loss of information or defect) with a maximum of 1 half-wave missing per second

4.4 Panel Specification

M170EG01 VD00 ZBD DELL AUO

4.4.1 Display Characteristics

Items	Unit	Specifications
Screen Diagonal	[mm]	432 (17.0")
Active Area	[mm]	337.920(H) × 270.336(V)
Pixels H x V		1280 × 3(RGB) × 1024
Pixel Pitch	[mm]	0.264(per one triad) × 0.264
Pixel Arrangement		R.G.B. Vertical Stripe
Display Mode		Normally White
White Luminance	[cd/m^2]	300 (center,Typ)@7.5 mA
Contrast Ratio		800 : 1 (Typ)
Optical ResponseTime	[msec]	5 (Typ)
Nominal Input Voltage VDD	[Volt]	+5.0 (Typ)
Power Consumption	[Watt]	25.8 W (Typ) (PDD=6W, PCFL=19.8W @Lamp=7.5mA)
Weight	[Grams]	2100 Max.
Physical Size (H x V x D)	[mm]	358.5(H) x 296.5(V) Typ. x 15.8(D) Max.
Electrical Interface		Dual Channel LVDS
Surface Treatment		Anti-glare type, Hardness 3H
Support Color		16.7M colors (RGB 6-bits + FRC data)
Temperature Range Operating Storage (Non-Operating)	 [°C] [°C]	 0 to +50 -20 to +60
RoHS Compliance		RoHS Compliance

4.4.2 Optical Characteristics

The optical characteristics are measured under stable conditions at 25℃ (Room Temperature):

Item	Unit	Conditions	Min.	Typ.	Max.	Note
Viewing Angle	[degree]	Horizontal (Right) CR = 10 (Left)	70 70	80 80	-	1
		Vertical (Up) CR = 10 (Down)	70 70	80 80	-	
Luminance Uniformity	[%]	9 Points	75	80	-	2, 3
Optical Response Time	[msec]	Rising	-	3.5	6	4, 6
		Falling	-	1.5	3	
		Rising + Falling	-	5	9	
Color / Chromaticity Coordinates (CIE 1931)		Red x	0.618	0.648	0.678	4
		Red y	0.309	0.339	0.369	
		Green x	0.262	0.292	0.322	
		Green y	0.573	0.603	0.633	
		Blue x	0.113	0.143	0.173	
		Blue y	0.040	0.070	0.100	
		White x	0.283	0.313	0.343	
		White y	0.299	0.329	0.359	
White Luminance (At CCFL= 7.5mA)	[cd/m^2]		250	300	-	4
Contrast Ratio			450	800	-	4
Cross Talk (At 75Hz)	[%]		-	-	1.5	5
Flicker	[dB]		-	-	-20	7

4.5 Definition of Pixel Defects

4.5.1 Inspection environment conditions:

- ◆ Room temperature: 20 ~ 25 C
- ◆ Humidity: 65 ± 5% RH.
- ◆ Illumination: Fluorescent light (Day-Light Type) display surface illumination to be 300 ~ 700 Lux. (standard 500Lux.)
- ◆ To be a distance about 35±5 cm in front of LCD unit, viewing line should be perpendicular to the surface of the module judge the visual appearance with human's eyes. (Stand up the panel for judge and ±30° viewing edge will be allowed)
- ◆ Take off the protection film of polarizer while judging the display area.
- ◆ If there is any question while judging, check the panel again in operating mode.

4.5.2. Classification of defects:

Defects are classified as major defects and minor defects according to the degree of defectiveness defined herein.

Major defects: A major defect is a defect that is likely to result in failure, or to reduce materially the usability of the product for its intended purpose.

Minor defects: A minor defect either is a defect that is not likely to reduce materially the usability of the product for its intended purpose, or is a departure from an established having little bearing on the effective use or operation of the product.

4.5.3. Electrical inspection specification

	Inspection Item	Specification
1	Line defect	Can't be seen.
2	Bright dots	≤ **2** dots (note1,2,3)
3	Dark dots	≤ **3** dots (note1,2,3)
4	Total dots defect	≤ **5** dots (note1,2,3) (The small dots number are excluded in the count of full-pixel bright dots)
5	Adjacent dot defect (note 3)	Two continuous bright dots (vertical, horizontal, oblique): ≤ **1** pair
		Three or more continuous bright dots (vertical, horizontal, oblique): Not allowed
		Two continuous dark dots (vertical, horizontal, oblique): ≤ **1** pairs
		Two continuous dots – one dark dot adjacent to one bright dot (vertical, horizontal, oblique): ≤ **1** pairs
		Three or more continuous dots – to be of any combination of dark dot and bright dot (vertical, horizontal, oblique): Not allowed
		Distance between 2 Bright dots: ≥ **15** mm Distance between 2 Dark dots: ≥ **15** mm Distance between Bright and Dark dots: ≥ **10** mm
6	Display non-uniformity Or Mura (Note 4,5)	Use of ND filter or judged by equivalent limit sample
7	Image Retention	**For burning mode**: Use the test pattern and turn on for **8** hours. After **8** hr, change to 50% gray pattern. After 5 min, use **8**% ND Filter at 50% Gray Pattern, under 0° viewing angle, the Image Sticking Symptom must be invisible. **For pattern changing mode**: use the chessboard pattern (4X4 black & white) to test the panel. Image retention symptom should be disappeared in the front view within 10 second. Image retention symptom is allowed in lateral view.

Note (1) For bright dot defect, bright area should be larger than 1/2 area of a red or blue subpixel, or 1/3 area of a green sub pixel to be count as 1 dot defect. A dot defect that is smaller than the defined dot defect will be treated as small bright dot. A small bright dot should not be seen with the use of 6% ND filter (note (5)) or equivalent inspection pattern.

The total number of small bright dot defect should not be greater than 5 (≤ 5).

Note (2) Adjacent-dot defect (refer to picture, dot 1,2,..,8 around A are all A's adjacent dots) should be inspected under the same display pattern in any one of White/Black/Green/Blue/Red/Monotone Gray pattern.

Note (3) Adjacent-dot defect should be observed under any one of white/Black/Green/Blue/Red pattern. 1 pair of bright dots equals 2 dots.

*Inspection patterns: Standard inspection patterns of dot defect are listed below. AU uses these patterns as standard criteria for judging dot defect. Please inform AU if any other pattern is to be used to examine dot defect.

Test Pattern	Defect
Black	For white dot(s)
White	For black dot(s)
Monotone Red/Green/Blue	For black and white dot(s)

Note (4) The general mura symptoms will use 6 % ND Filter.

Note (5) The inspection method of ND Filter - holding ND filter in front of the panel around **1** cm and examine the panel from 35±5 cm in the front view for 5 seconds.

4.5.4 Appearance inspection specification

Judge area	Judge item		Inspection specification		Judge criterion		
					Critical	Major	Minor
Active Area	Particles, scratch and bubbles in display area (note 1 & 2)	Round	Average diameter (D) :(mm)	Numbers (N)			❍
			D < 0.15	Disregarded			
			0.15 ≤ D ≤ 0.5	**N ≤ 5**			
			0.5 < D	**N = 0**			
		Linear	Width: W (mm) / Length: L (mm)	Numbers			O
			W< 0.05 and **L < 2**	Disregarded			
			0.05≤ W≤ 0.07 or **2 ≤ L ≤ 5**	**N ≤ 3**			
			W> 0.07 or **L >5**	**N = 0**			
	Defect		Eyes should not find it.		O		
	Dirt					O	
	Grains					O	
	Bubble in cell (Active area)		Eyes should not find it.			O	
Bezel	Scratch		No harm				O
	Dirt						O
	Wrap		No dangerous			O	
	Sunken		No harm			O	
Label (S/N, B/L, Week code)	No label		No			O	
	Invert label					O	
	Broken					O	
	Dirt		Word can be read.			O	
	Not clear						O
	Word out of shape						O
	Mistake		No				O
	Position		Be attached on right position				O
Solder	Appearance		Can't see the abnormal color, shape, hurt, dirt (fused goods, etc.). If it is necessary, please prepare sample.			O	
Screw	Not enough		No			O	
	Limp		No			O	
White sheet	Shell, rub		No			O	
Connector	Connection status		Need correct connection.			O	
FPC/FFC	Broken		No			O	

Note 1: When L >=2W, defect count as liner defect.

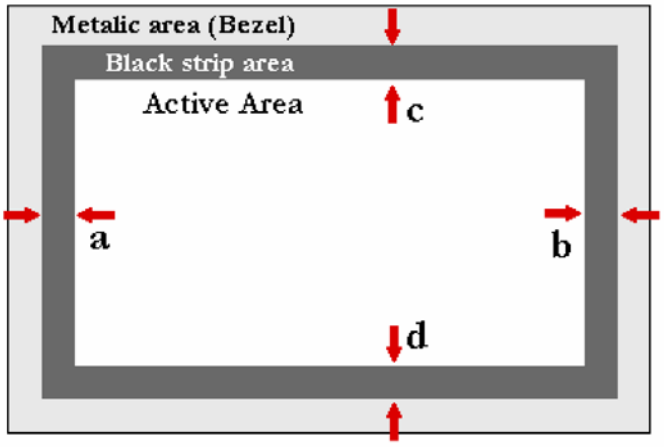
Note 2: The judged view angle should be at 40°

4.5.5 Outside dimension specification:

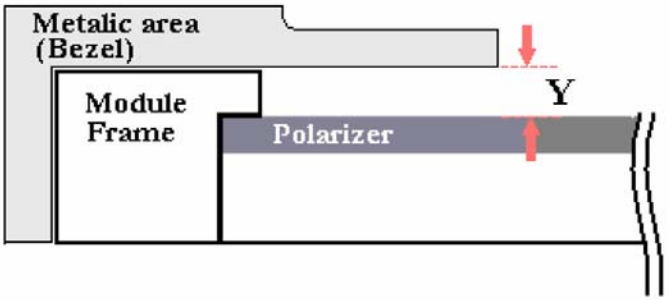
Testing order	Inspection Item		Specification	Note
	Name	Unit	Tolerance	
1	Outside dimension (vertical)	mm	± 0.5 mm	Please refer to the product spec for detailed dimension definition (Note 1)
2	Outside dimension (horizontal)	mm	± 0.5 mm	
3	Outside dimension (thickness)	mm	± 0.5 mm	
4	Weight	g	± 50 g	
5	Display tolerance ABS (a-b)	mm	1.0 mm (Max.)	Note 2
6	Display tolerance ABS (c-d)	mm	1.0 mm (Max.)	Note 2
7	Panel gap (Y)	mm	0.7 mm (Max.)	Note 3

Note 1: Thickness doesn't include bending.

Note 2: Display tolerance definition

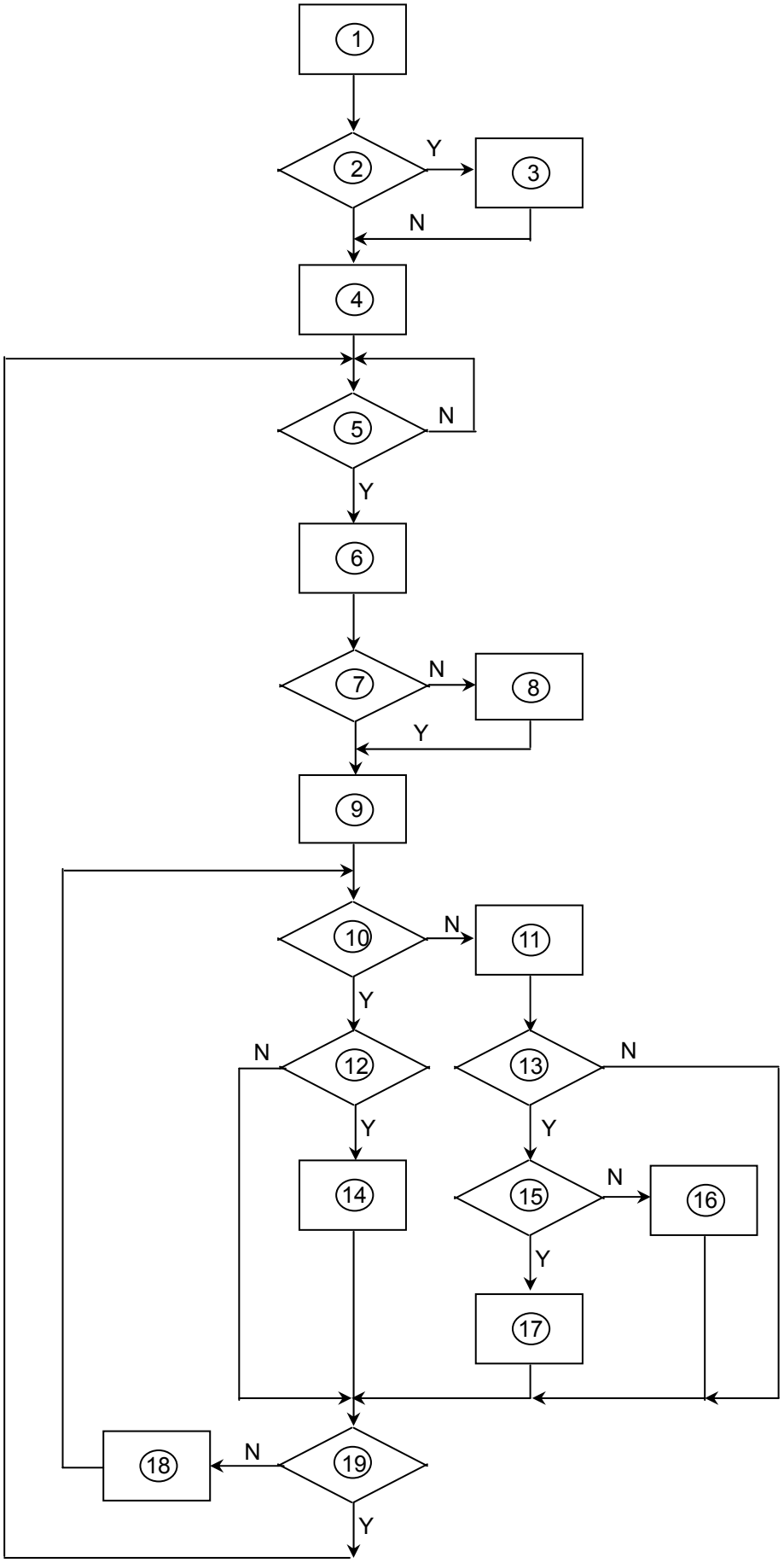


Note 3: Panel gap (Y) definition:



5. Block Diagram

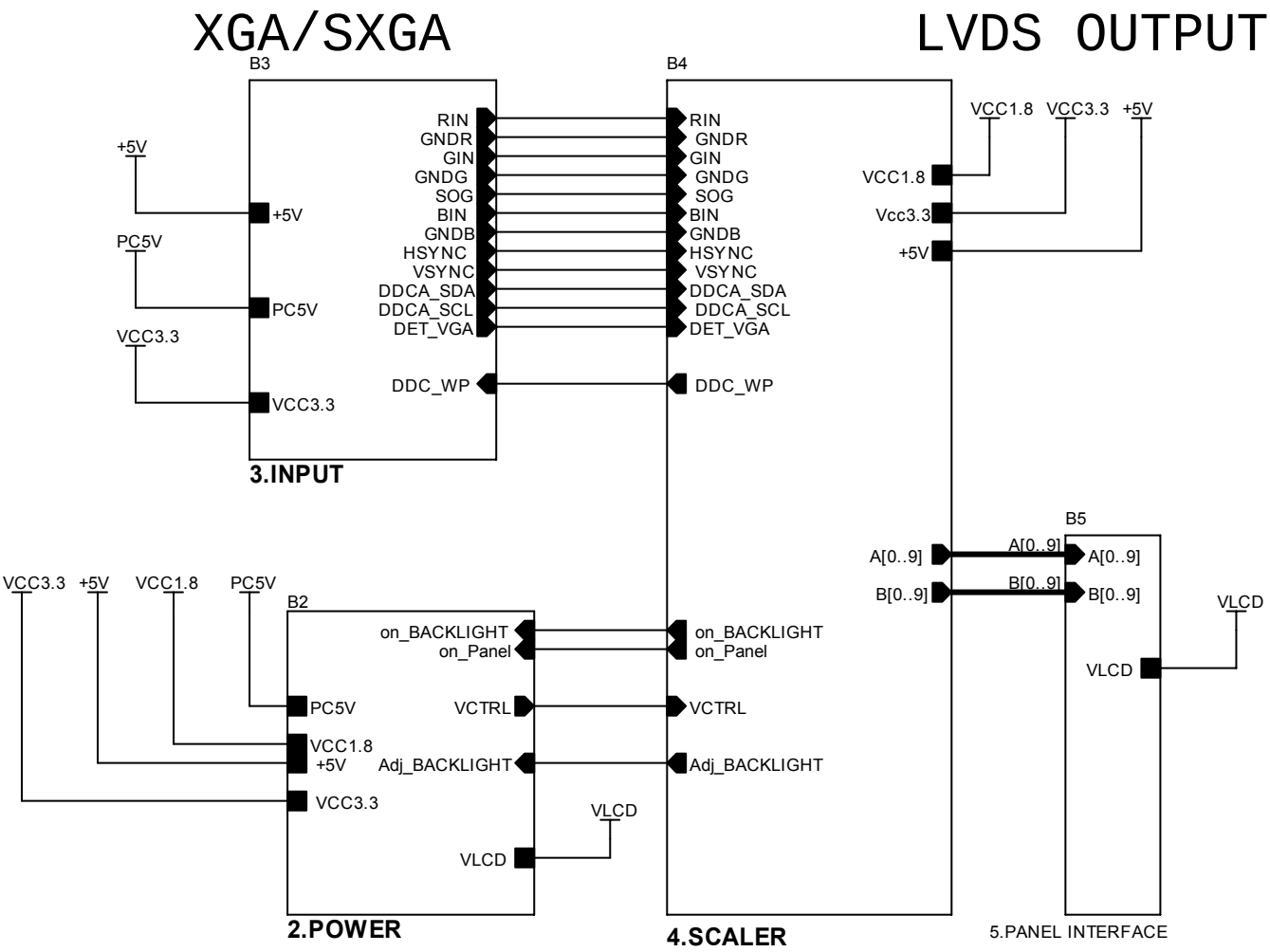
5.1 Software Flow Chart



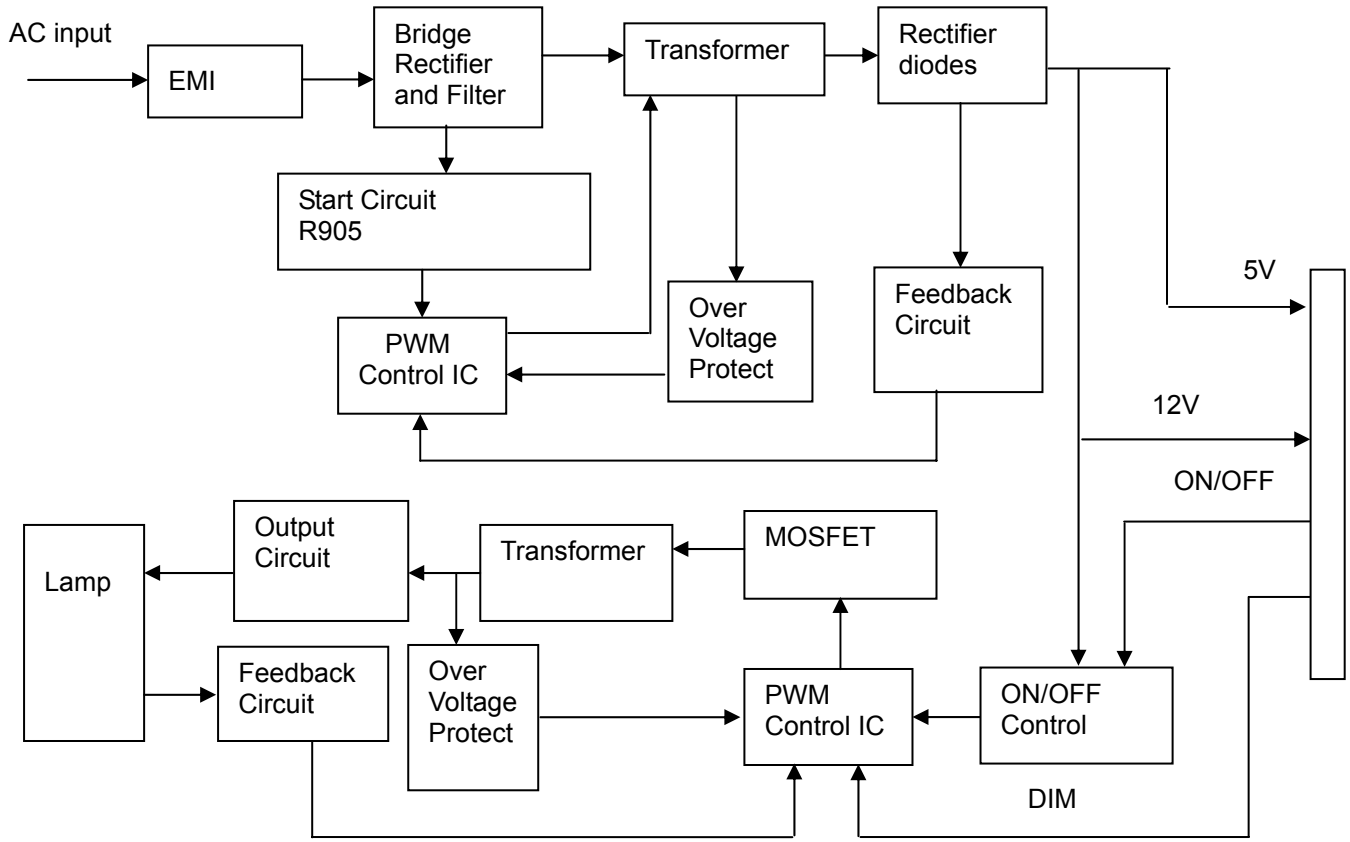
1) MCU Initializes.
2) Is the EEprom blank?
3) Program the EEprom by default values.
4) Get the PWM value of brightness from EEprom.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EEprom. Turn on the LED and set it to green color. Scalar initializes.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are there any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappears.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

5.2 Electrical Block Diagram

5.2.1 Main Board



5.2.2 Inverter and Power Board

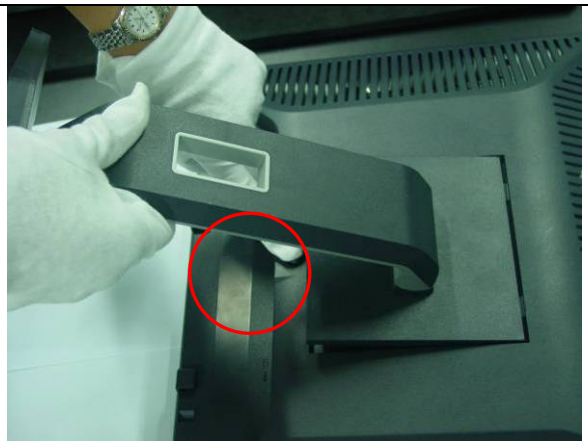


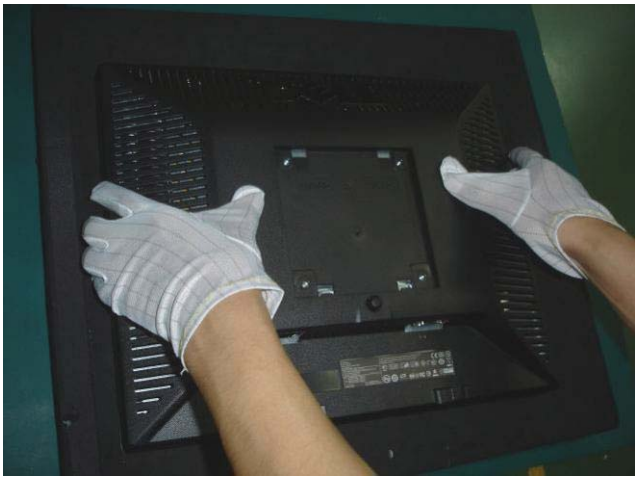
6. Mechanical Instructions

Tools: 2 Power screwdrivers (φ=5mm,L=60mm); 1 small cross screwdriver; turnbuckle driver;

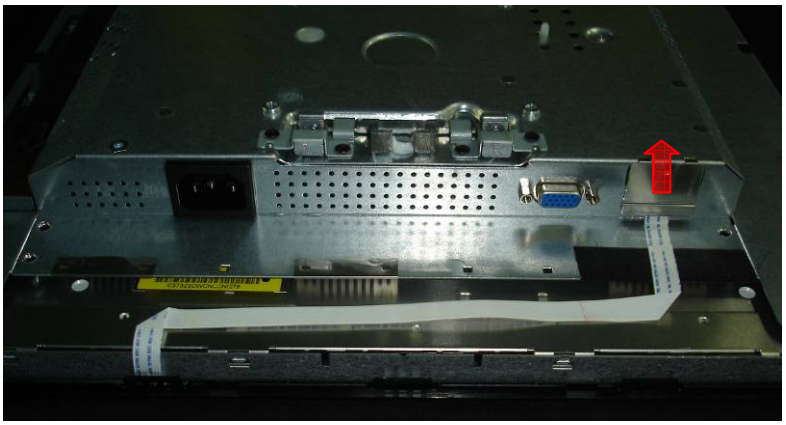
Setting: Power screwdriver torque A=11 kgF. Cm; torque B=6 kgF. Cm

Note: Firstly, put the monitor on a soft, flat and clean surface, wear gloves.

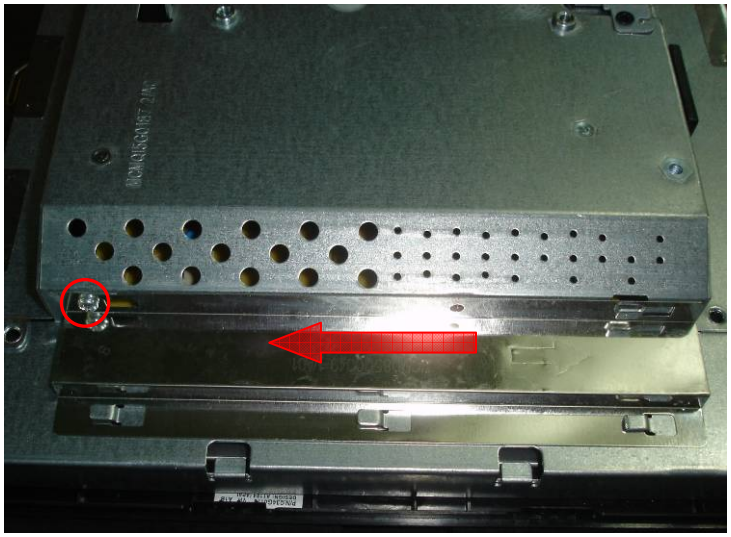
Fig	Remark
	**Remove stand:** 1. Rotate the stand to allow access to the stand release button. 2. Press the Stand release button and lift up the Stand and away from the monitor.
	Remove rear cover : 1. Remove the 4 screws by torque A
	2. Pry the monitor up then find out the hooks' position, use the tool (like the picture or other card) to insert into the gap of bezel and rear cover.

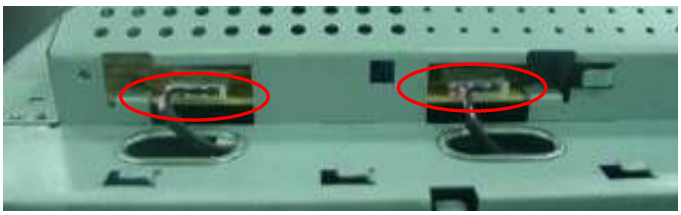


3. Turn over the monitor as the Fig, hold the rear cover, and then slightly remove it.

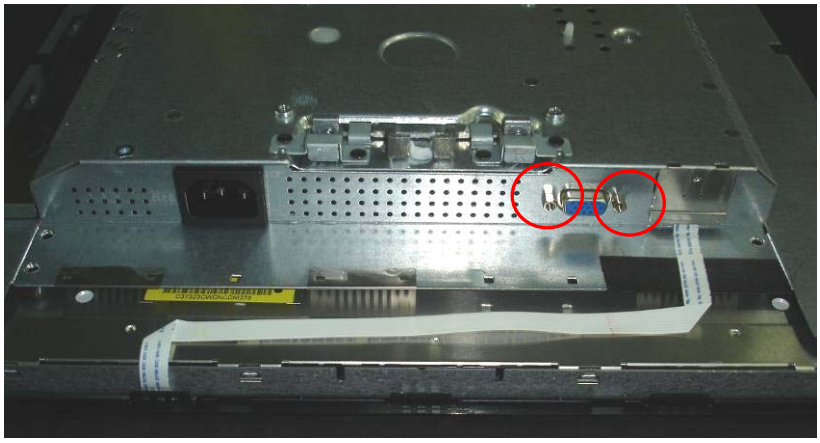


Remove the bezel:
Remove the small shield as the arrowhead direction, disconnects the keyboard connector, and then remove the bezel.

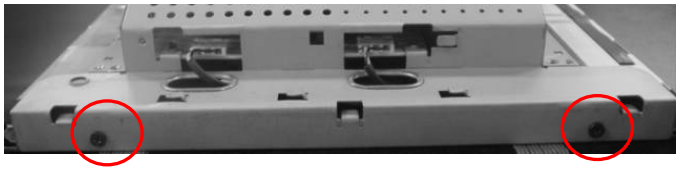




Remove the shield :
1. Remove the screw by Torque B or by manual and remove the small shield

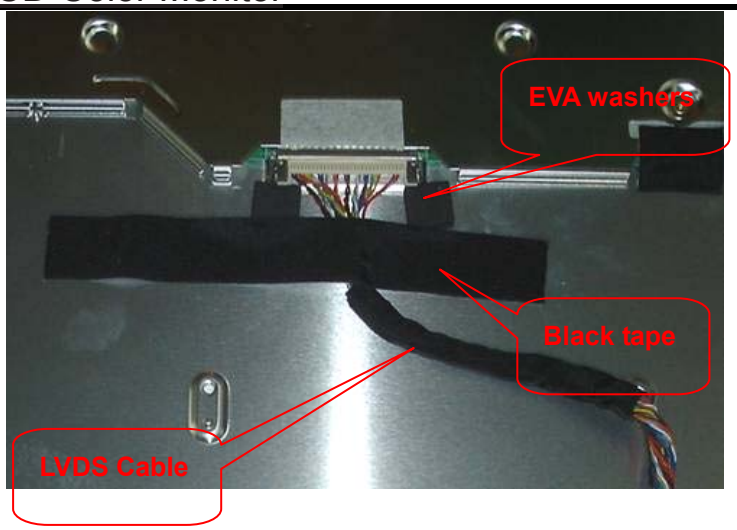


Remove the two screws by Torque B.



Remove the main frame:

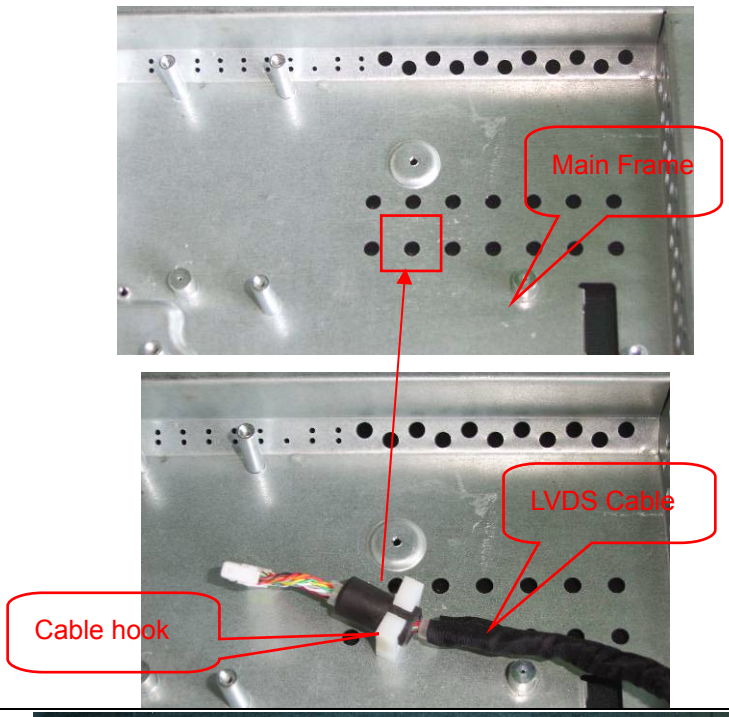
Remove the 4 screws by manual or torque = 3kgF.Cm and remove the main frame



Install:

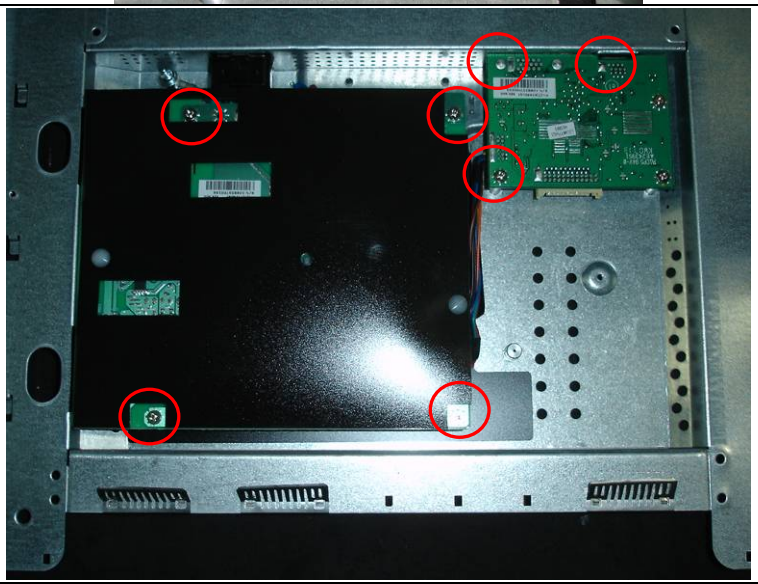
Fix the LVDS connector by black tape and EVA washers.

Note: Make LVDS connector's metal side adown for HYDIS, CPT, SAMSUNG and LG panel and upturned for AU panel.



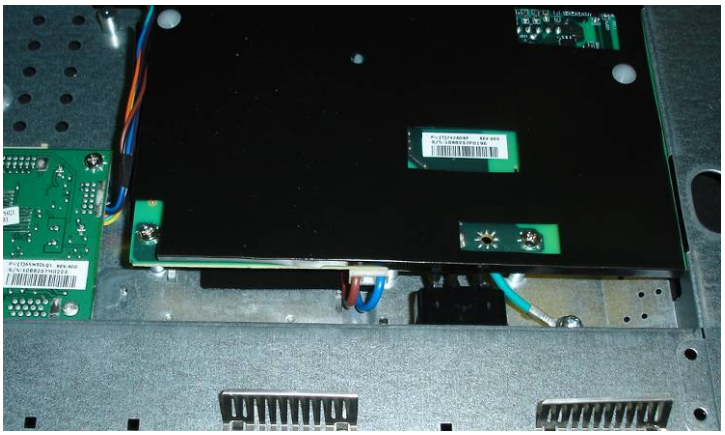
Install:

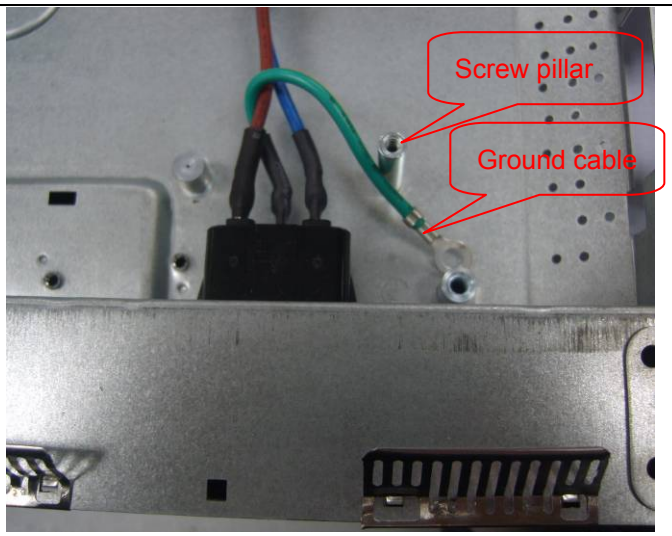
The cable hook trussing the LVDS cable is fixed on the second hole of main frame as the figure show



Remove the Boards:

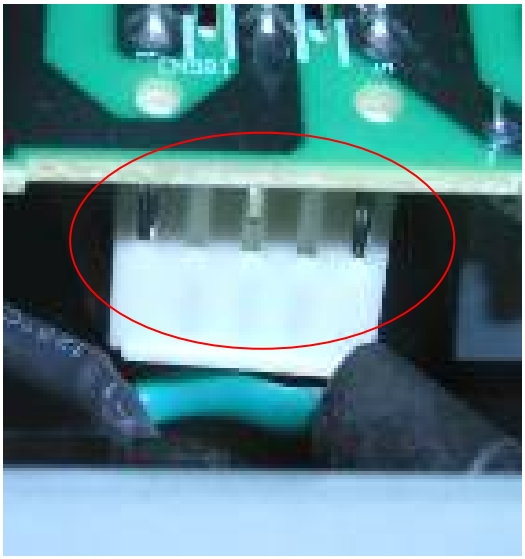
Remove the seven screws by Torque B and remove the Power Board and Main Board.





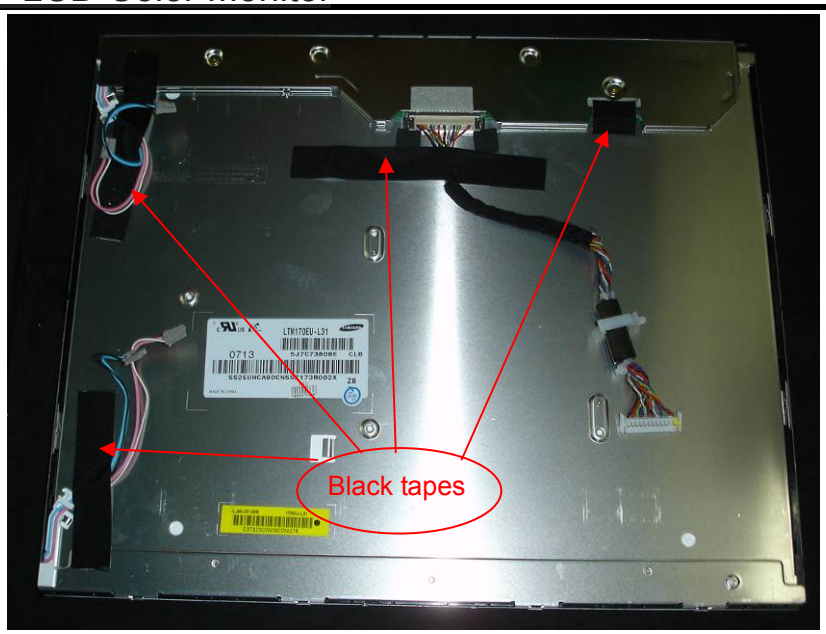
Install:

The ground cable should be laid above the other two cables and below the screw pillar.



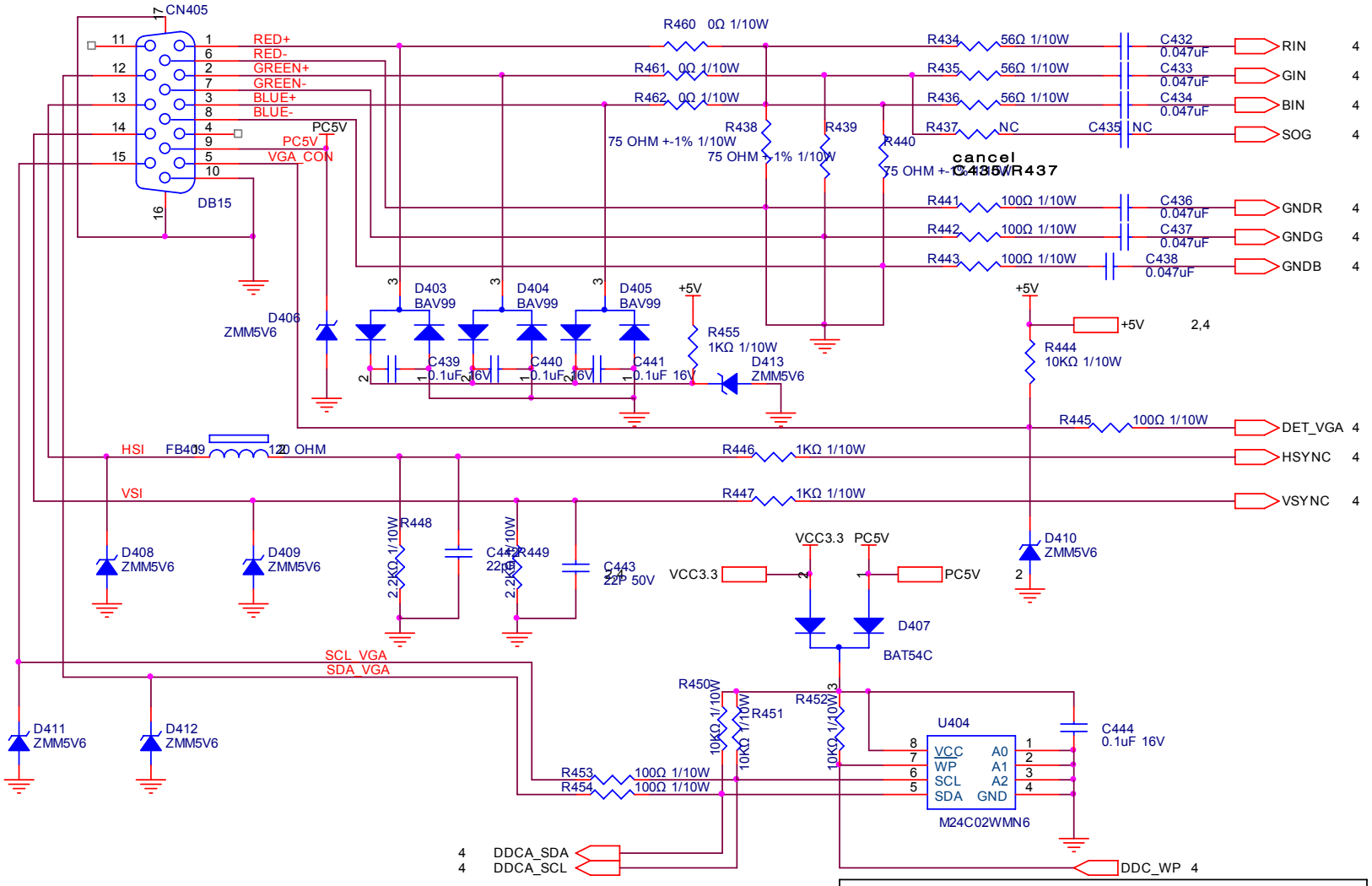
Install:

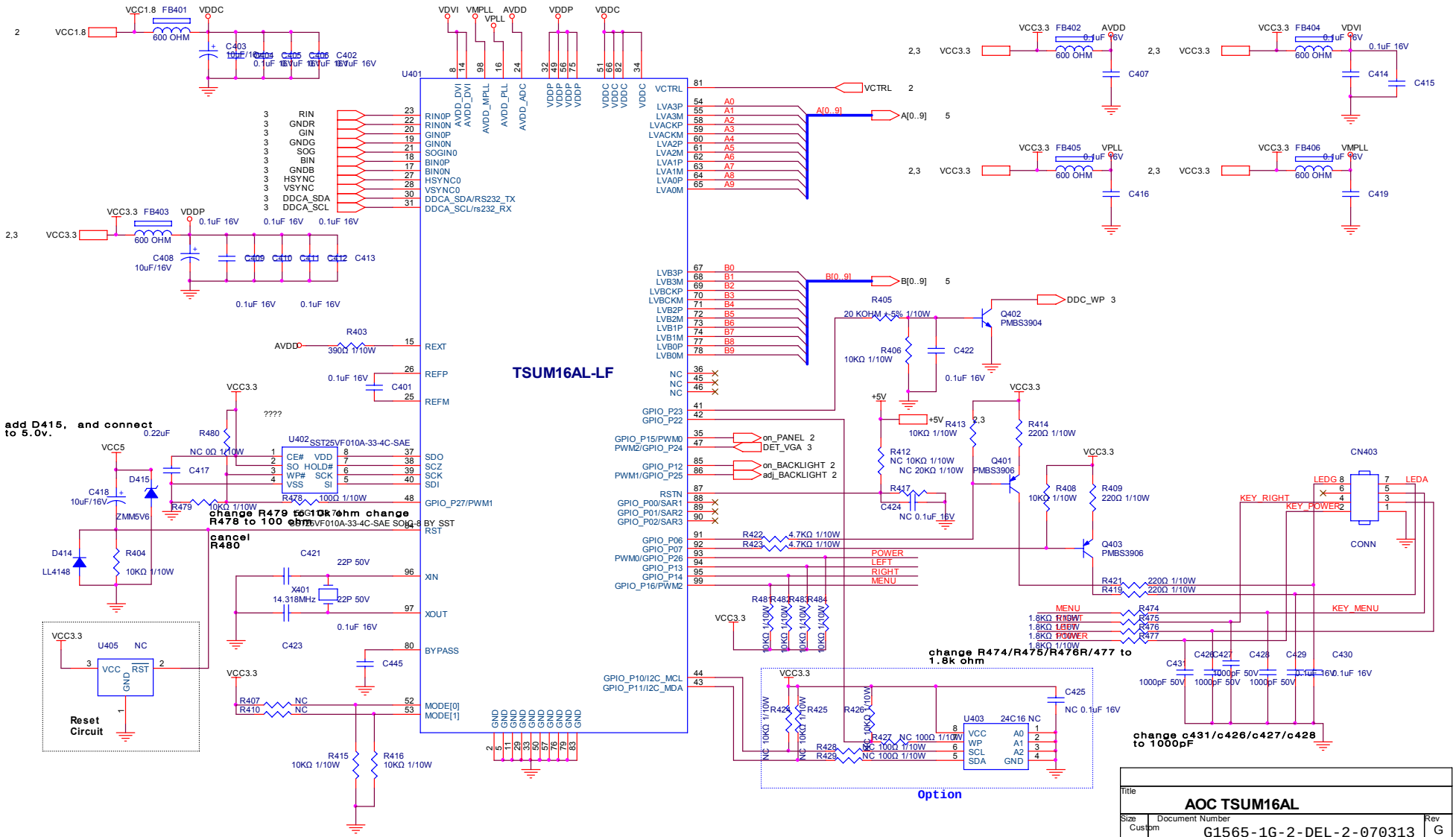
Note: The pins can't touch the blue and purple lines.

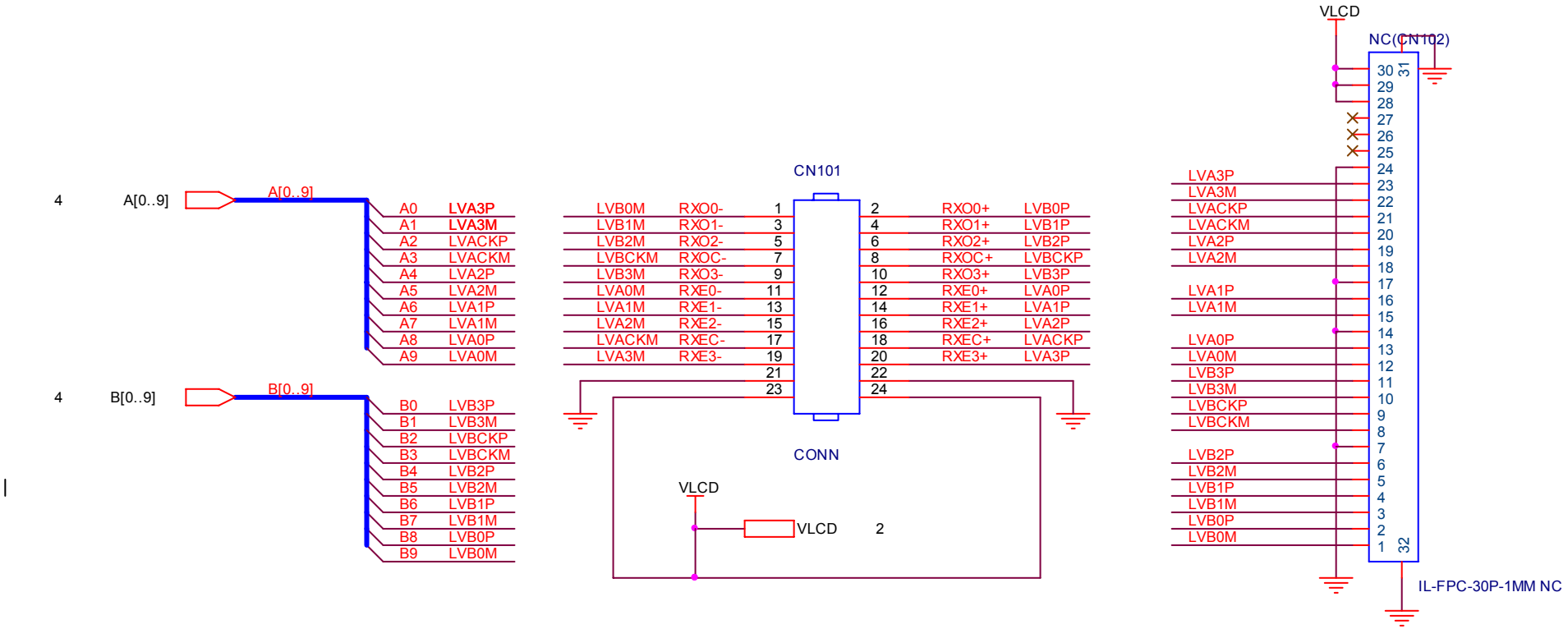
	**The end**
	Install: The angle between CCFL line and vertical direction should be 45 degree.

7. Schematic Diagram

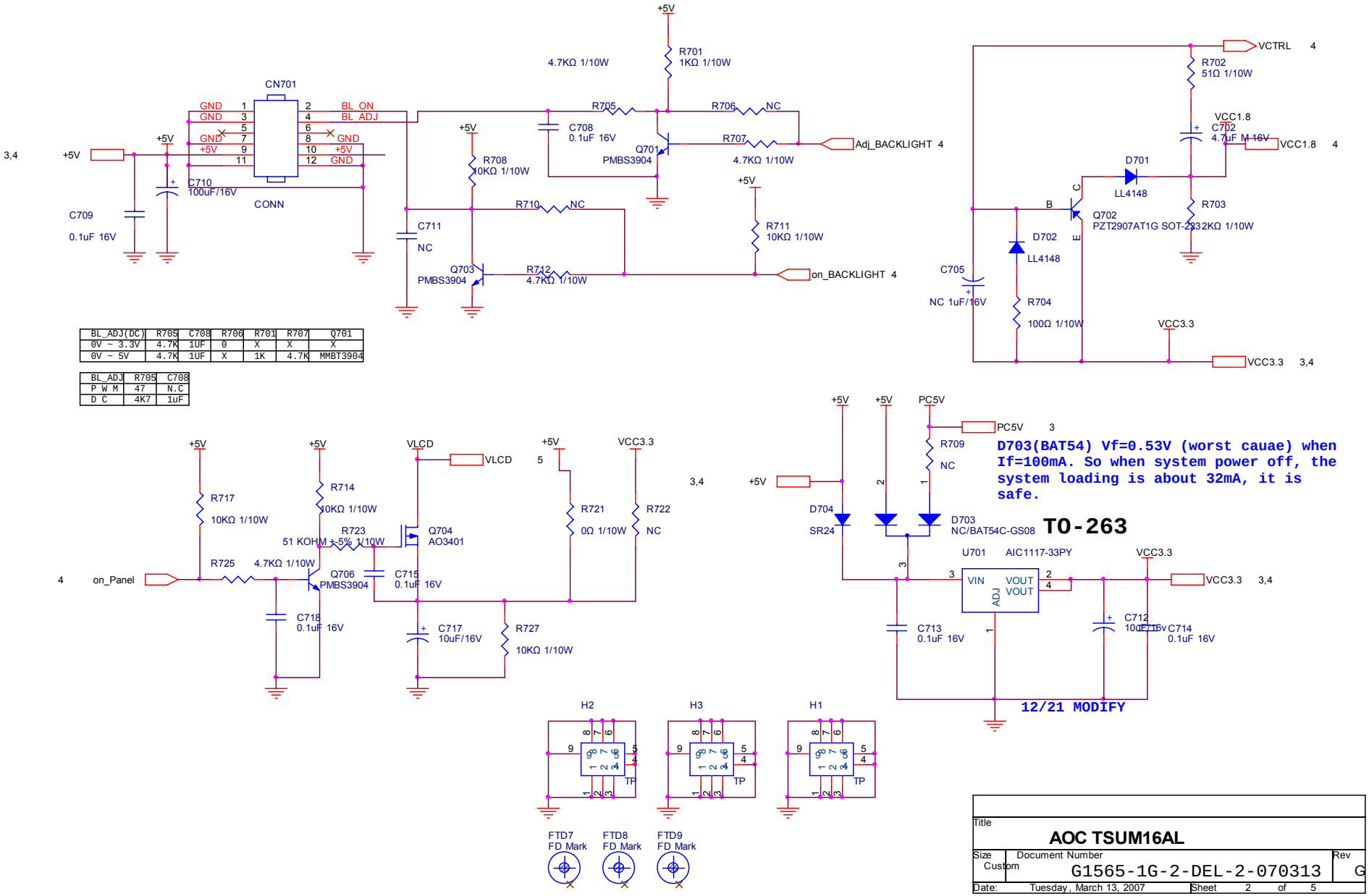
7.1 Main Board




TSUM16AL-LF
add D415, and connect to 5.0v.
change R479 to 10k ohm change R478 to 100 ohm
cancel R480
change R474/R475/R476R/477 to 1.8k ohm
change c431/c426/c427/c428 to 1000pF
Reset Circuit
Option
AOC TSUM16AL
G1565-1G-2-DEL-2-070313
Tuesday, March 13, 2007



Title	AOC TSUM16AL	
Size A	Document Number G1565-1G-2-DEL-2-070313	Rev G
Date: Tuesday, March 13, 2007	Sheet 5 of 5	

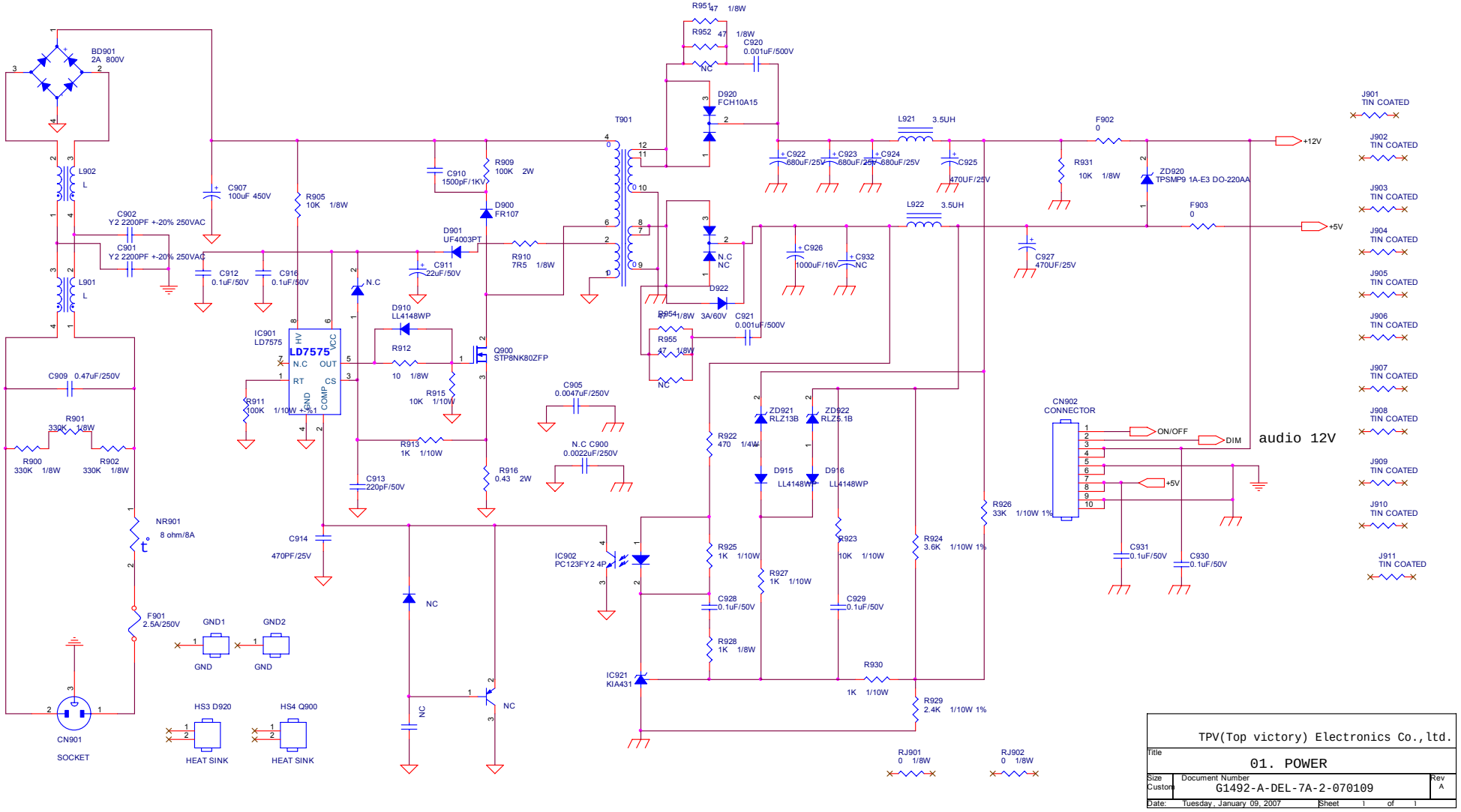


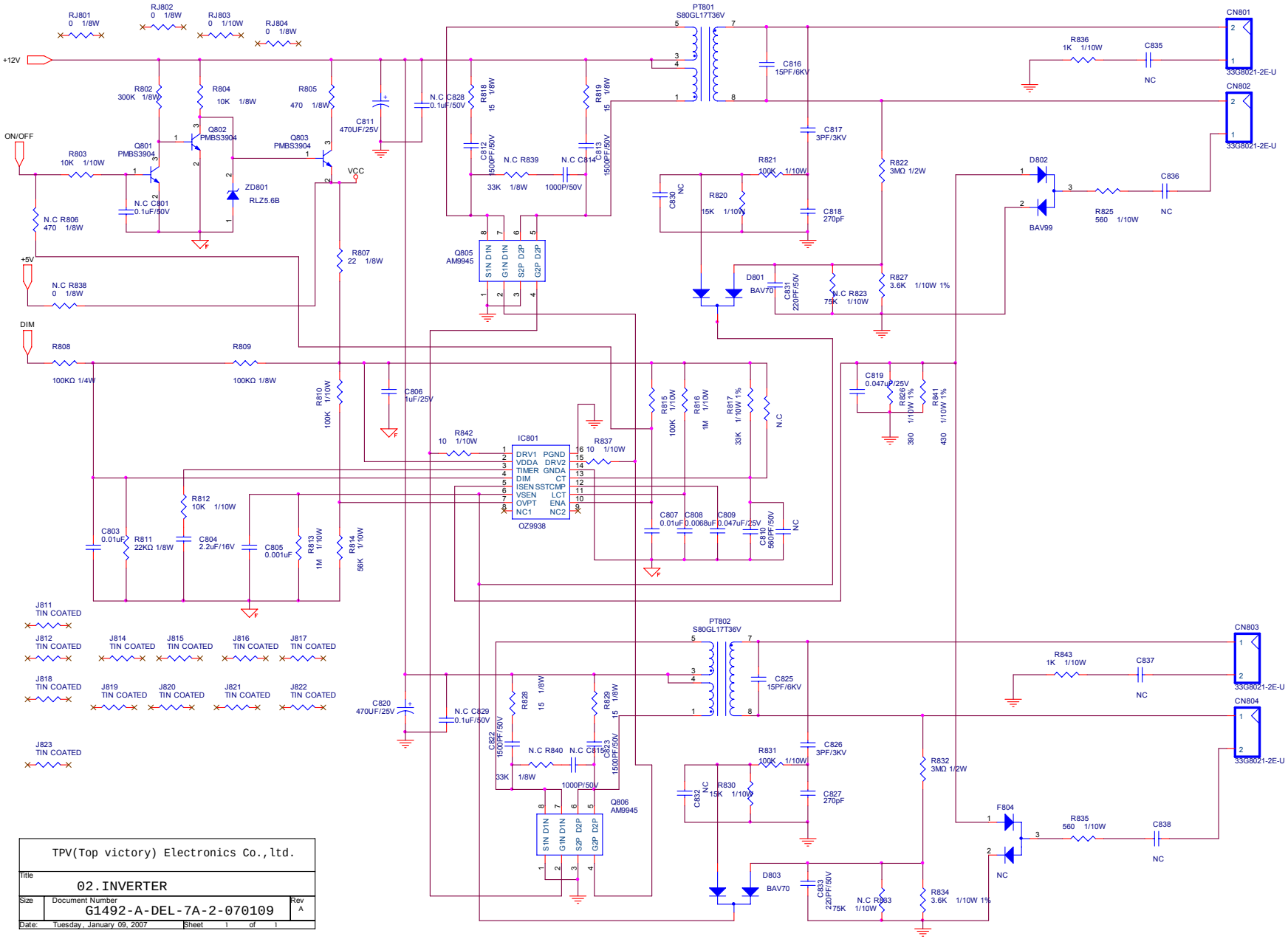
BL_ADJ(DC)	R705	C708	R706	R701	R707	Q701
0V ~ 3.3V	4.7K	1UF	0	X	X	X
0V ~ 5V	4.7K	1UF	X	1K	4.7K	MMBT3904

BL_ADJ	R705	C708
P W M	47	N.C
D C	4K7	1uF

Title	AOC TSUM16AL	
Size: Custom	Document Number: G1565-1G-2-DEL-2-070313	Rev: G
Date: Tuesday, March 13, 2007	Sheet 2 of 5	

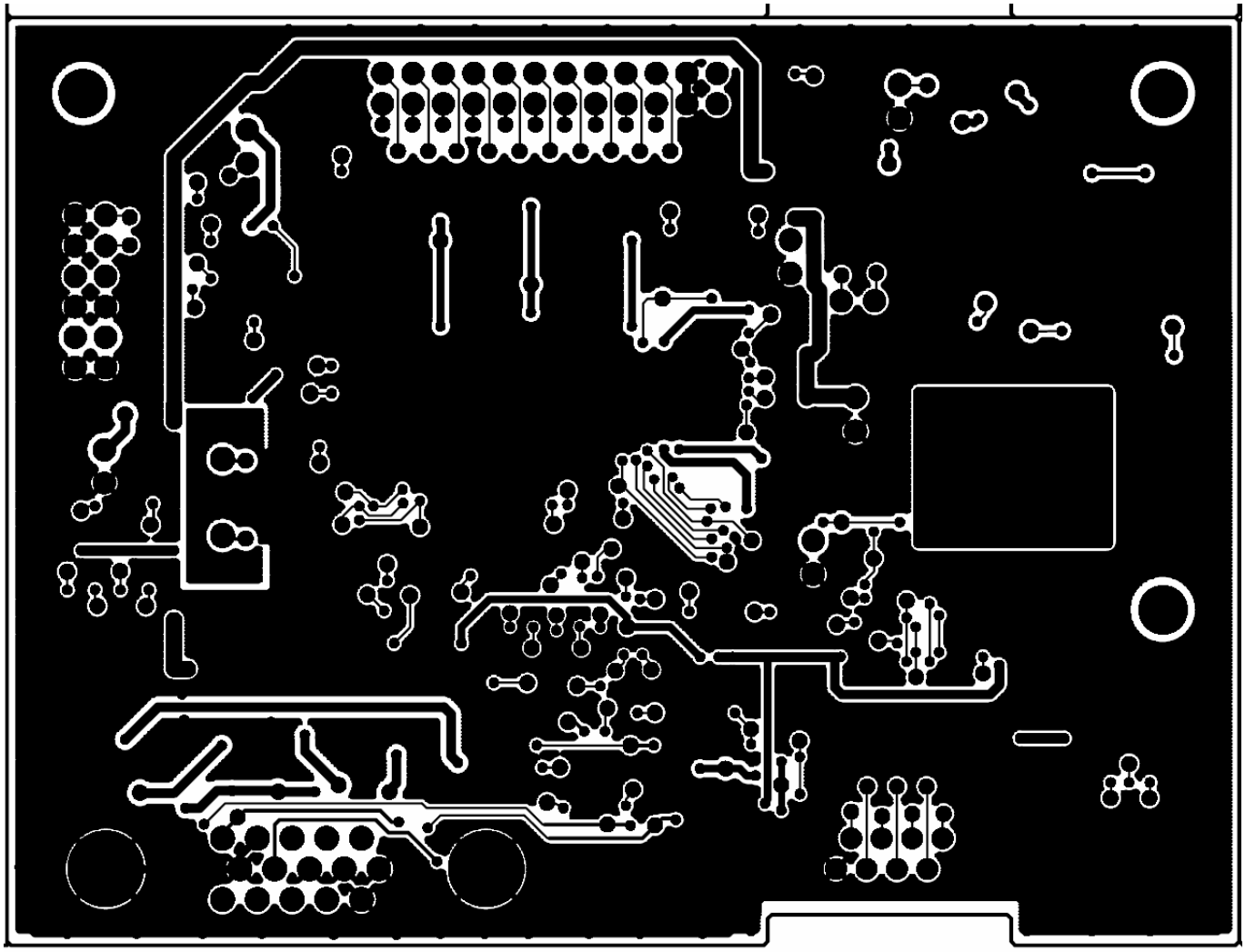
7.2 Power Board

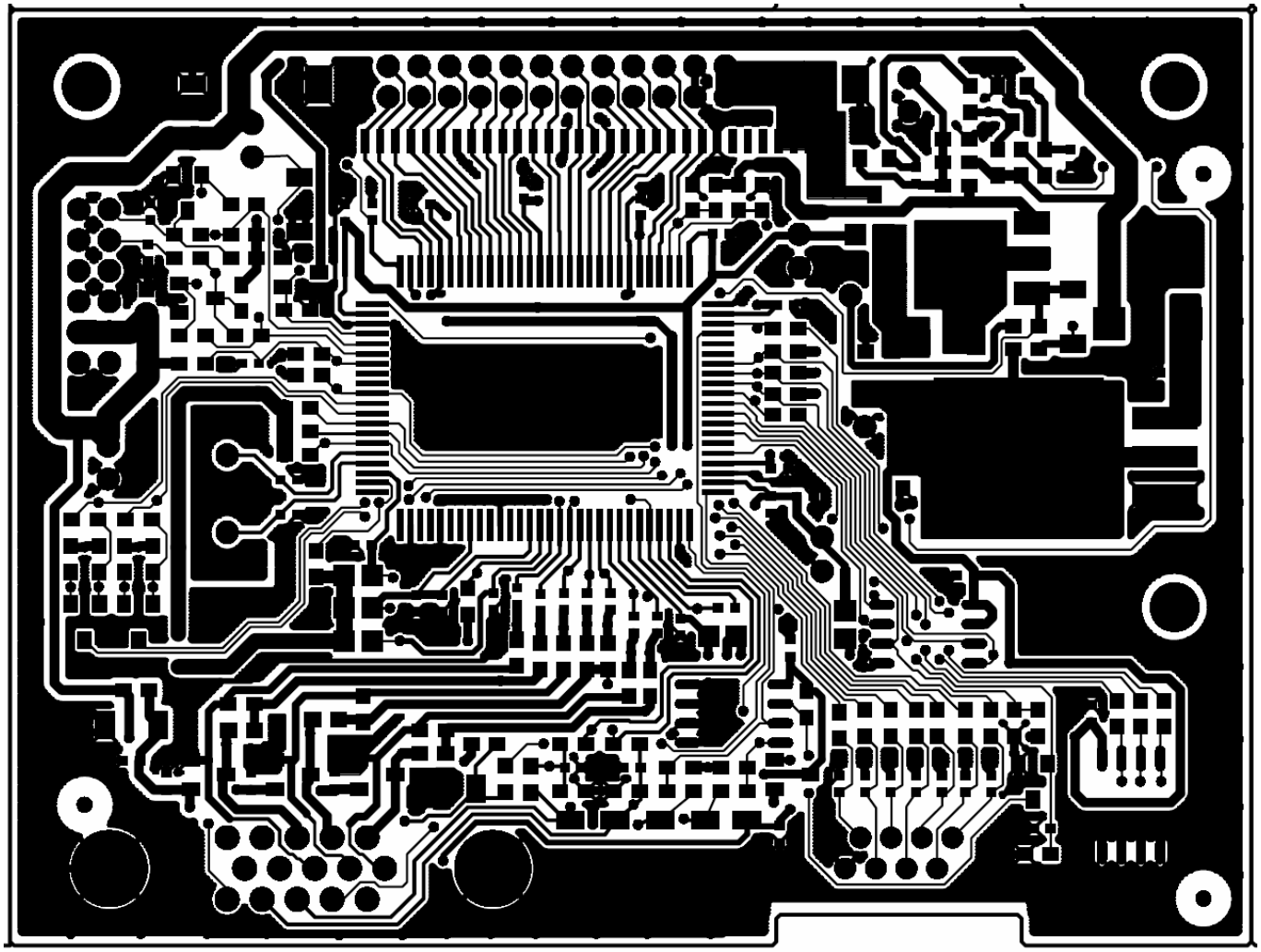


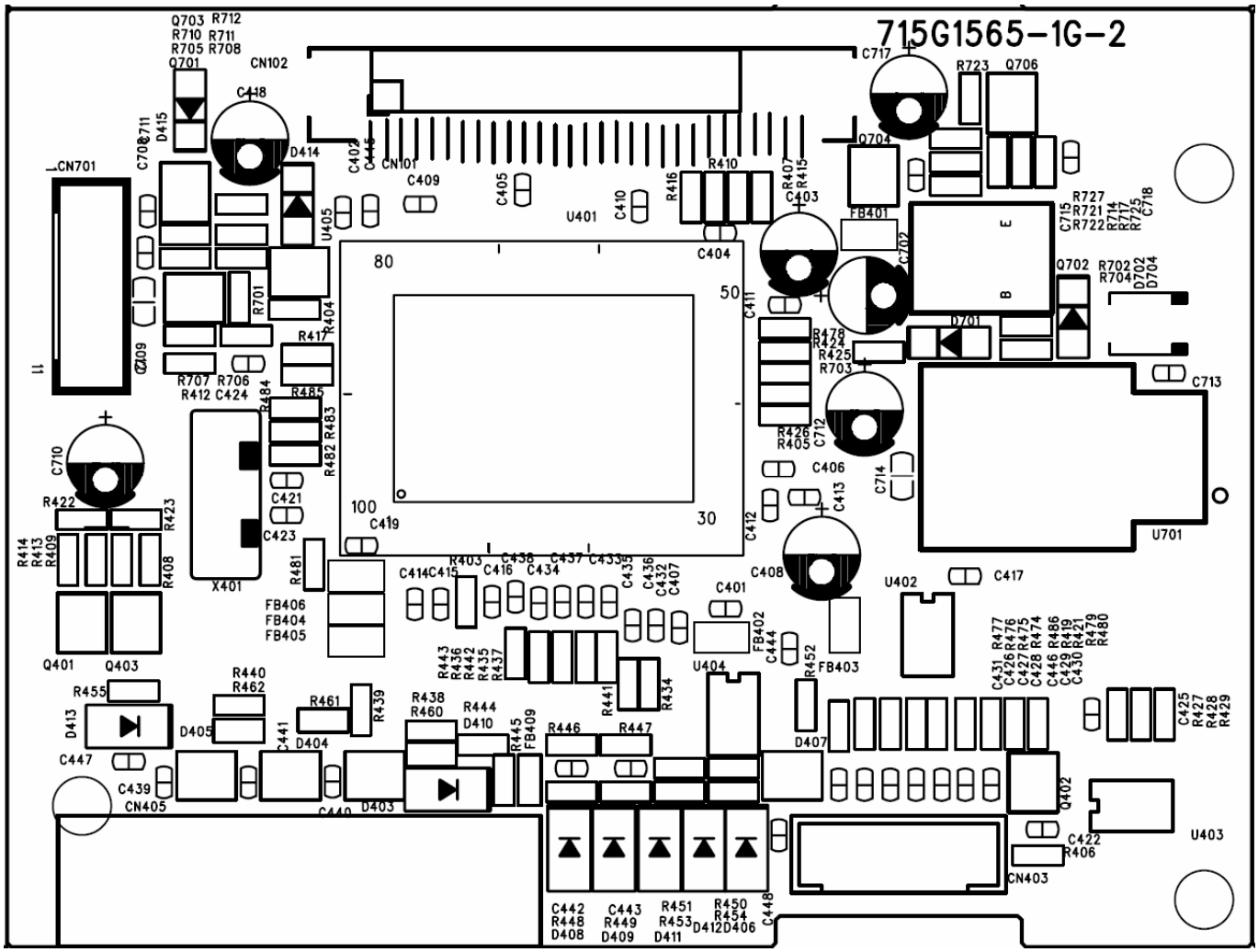

TPV(Top victory) Electronics Co.,ltd.
02.INVERTER
G1492-A-DEL-7A-2-070109
Rev A
Tuesday, January 09, 2007
Sheet 1 of 1
IC801
OZ9938
PT801
PT802
S80GL17T36V
Q805
Q806
AM9945
CN801
CN802
CN803
CN804
33G8021-2E-U
D801
D802
D803
BAV70
BAV99
ZD801
RLZ5.6B
Q801
Q802
Q803
PMBS3904
+12V
+5V
ON/OFF
DIM
VCC

8. PCB Layout

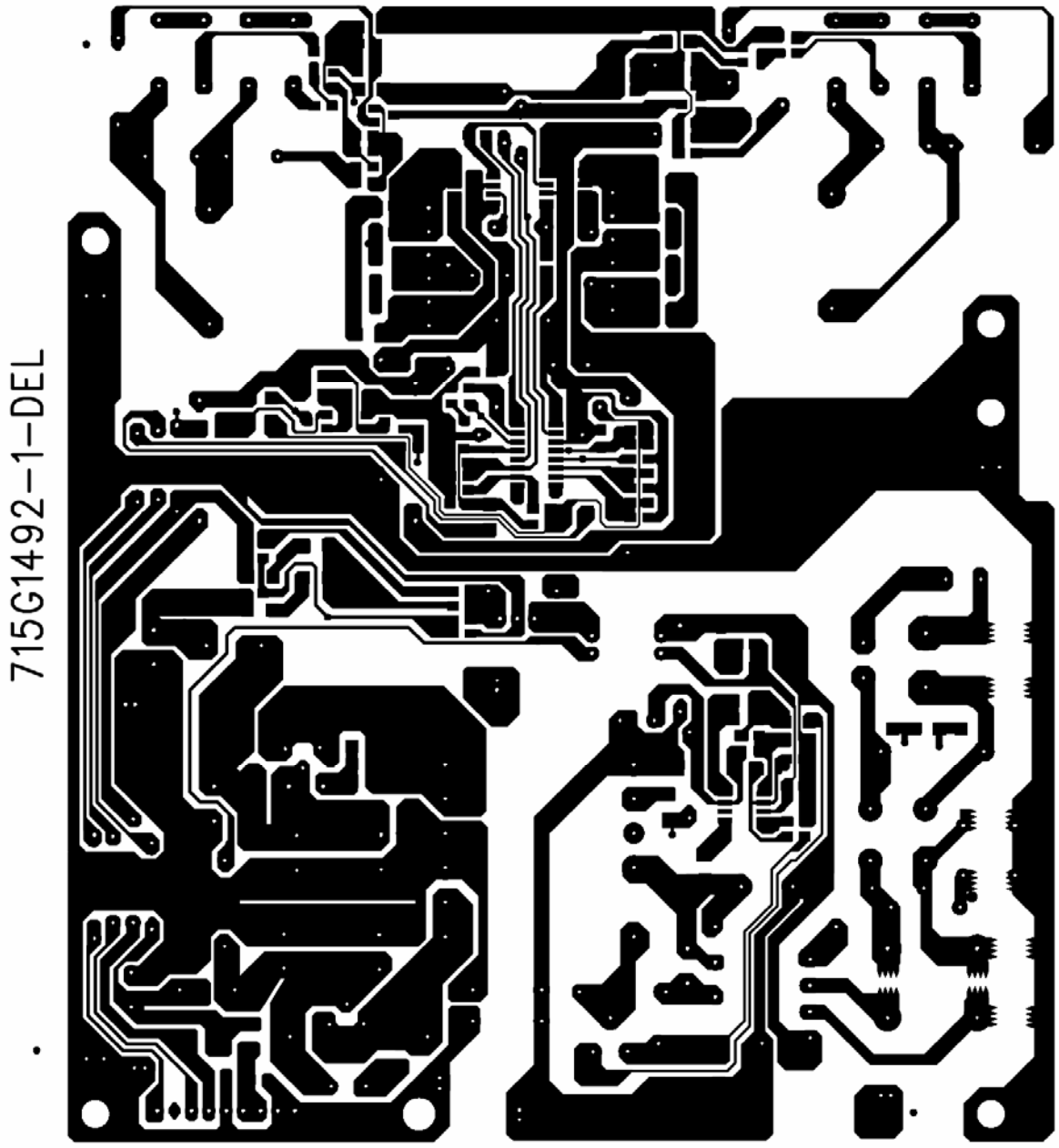
8.1 Main Board

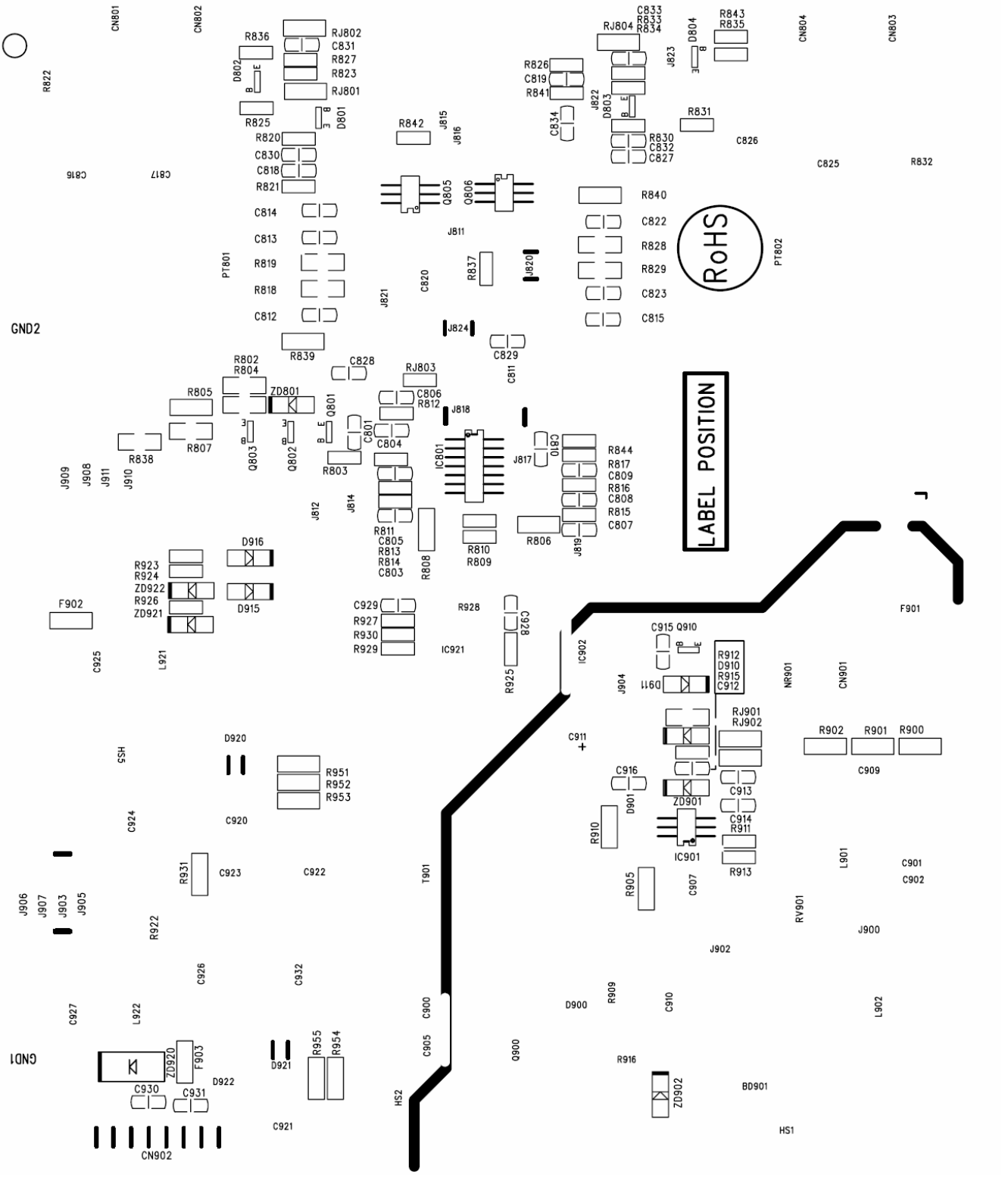


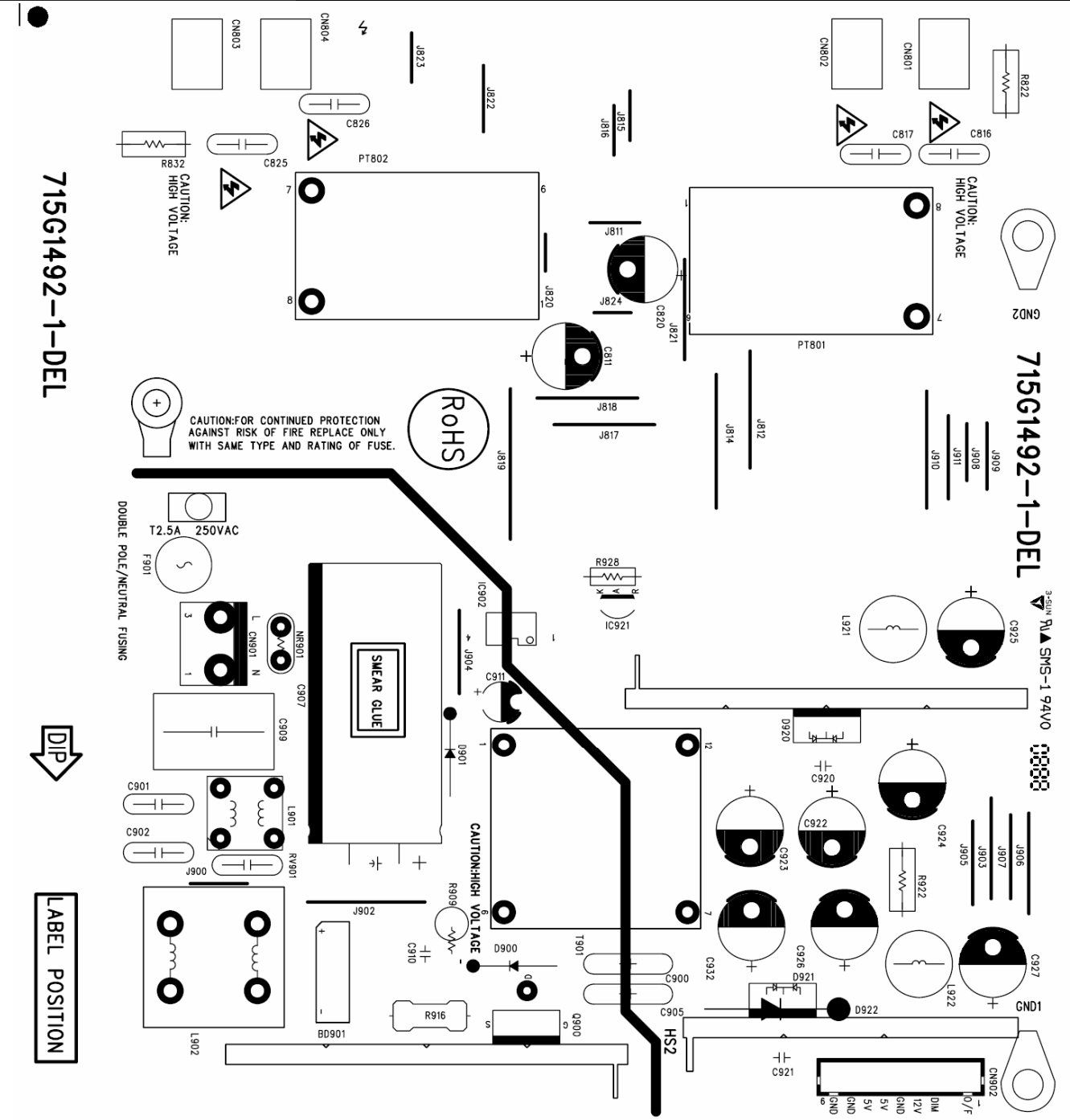



715G1565-1G-2
CN701
CN102
CN101
CN405
CN403
U401
U402
U403
U404
U701
X401
Q701
Q702
Q703
Q704
Q706
Q401
Q403
D401
D402
D403
D404
D405
D406
D407
D408
D409
D410
D411
D412
D413
D414
D415
C401
C402
C403
C404
C405
C406
C407
C408
C409
C410
C411
C412
C413
C414
C415
C416
C417
C418
C419
C421
C422
C423
C425
C426
C427
C428
C429
C430
C431
C432
C433
C434
C435
C436
C437
C438
C439
C440
C441
C442
C443
C444
C445
C446
C447
C448
C701
C702
C703
C704
C705
C706
C707
C708
C709
C710
C711
C712
C713
C714
C715
C716
C717
C718
R401
R402
R403
R404
R405
R406
R407
R408
R409
R410
R411
R412
R413
R414
R415
R416
R417
R418
R419
R420
R421
R422
R423
R424
R425
R426
R427
R428
R429
R430
R431
R432
R433
R434
R435
R436
R437
R438
R439
R440

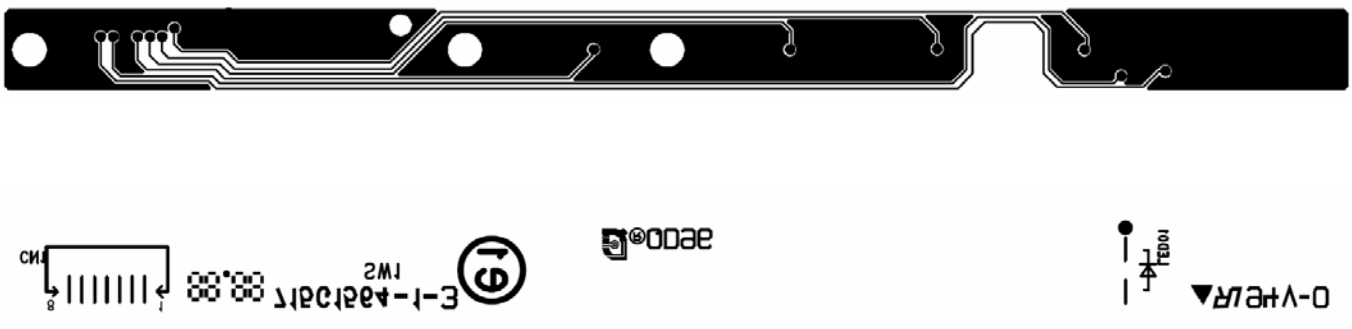
8.2 Power Board




LABEL POSITION
RoHS
GND2
GND1
CN801
CN802
CN803
CN804
CN902
R836
RJ802
C831
R827
R823
RJ801
R825
D802
D801
R820
C830
C818
R821
C814
C813
R819
R818
C812
PT801
R842
J815
J816
Q805
Q806
J811
C820
R837
J820
J821
J824
R839
C828
C829
C811
RJ803
C806
R812
R802
R804
R805
ZD801
Q801
J818
C801
C804
R803
R838
R807
Q803
Q802
J909
J908
J911
J910
J812
J814
IC801
J817
C810
R844
R817
C809
R816
C808
R815
C807
R806
J819
R811
C805
R813
R814
C803
R808
R810
R809
D916
D915
R923
R924
ZD922
R926
ZD921
F902
C929
R927
R930
R929
IC921
R928
C928
R925
C925
L921
R826
C819
R841
C834
RJ804
C833
R833
R834
D804
J823
D803
J822
R843
R835
R831
R830
C832
C827
C826
C825
R832
R840
C822
R828
R829
C823
C815
PT802
C816
C817
C915
Q910
IC902
J904
D911
R912
D910
R915
C912
NR901
CN901
RJ901
RJ902
R902
R901
R900
C909
C911
C916
D901
C913
ZD901
C914
R911
R910
IC901
R913
R905
C907
T901
C901
C902
L901
RV901
J900
J902
D900
R909
C910
L902
Q900
R916
ZD902
BD901
HS1
HS2
HS5
D920
R951
R952
R953
C920
C924
R931
C923
C922
R922
J906
J907
J903
J905
C926
C932
C927
L922
C900
C905
D921
R955
R954
ZD920
F903
D922
C930
C931
C921


715G1492-1-DEL
CAUTION:FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.
RoHS
T2.5A 250VAC
DOUBLE POLE/NEUTRAL FUSING
SMEAR GLUE
CAUTION:HIGH VOLTAGE
DIP
LABEL POSITION
715G1492-1-DEL

8.3 Key Board



9. Maintainability

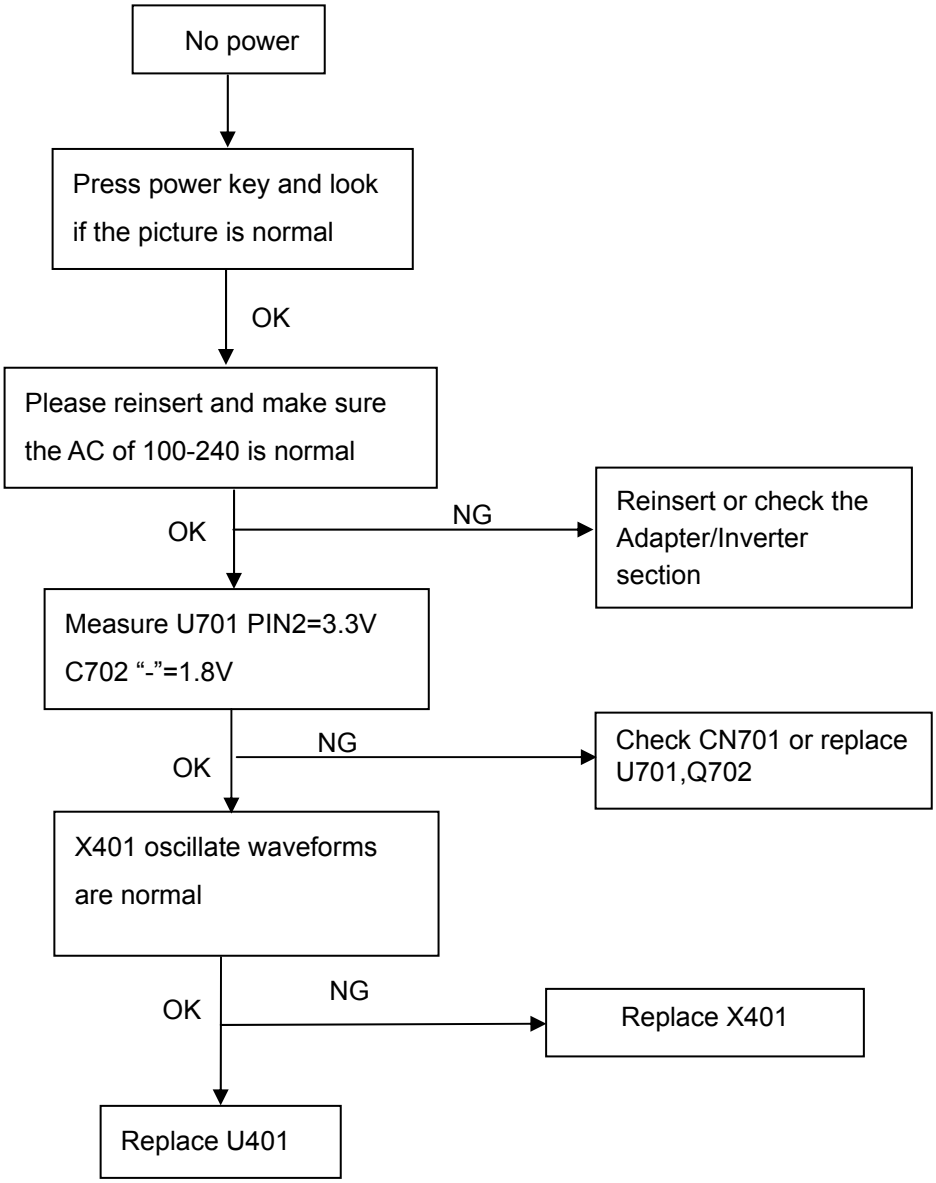
9.1 Equipments and Tools Requirement

1. Voltage meter
2. Oscilloscope
3. Pattern Generator
4. LCD Color Analyzer
5. Service Manual
6. User Manual

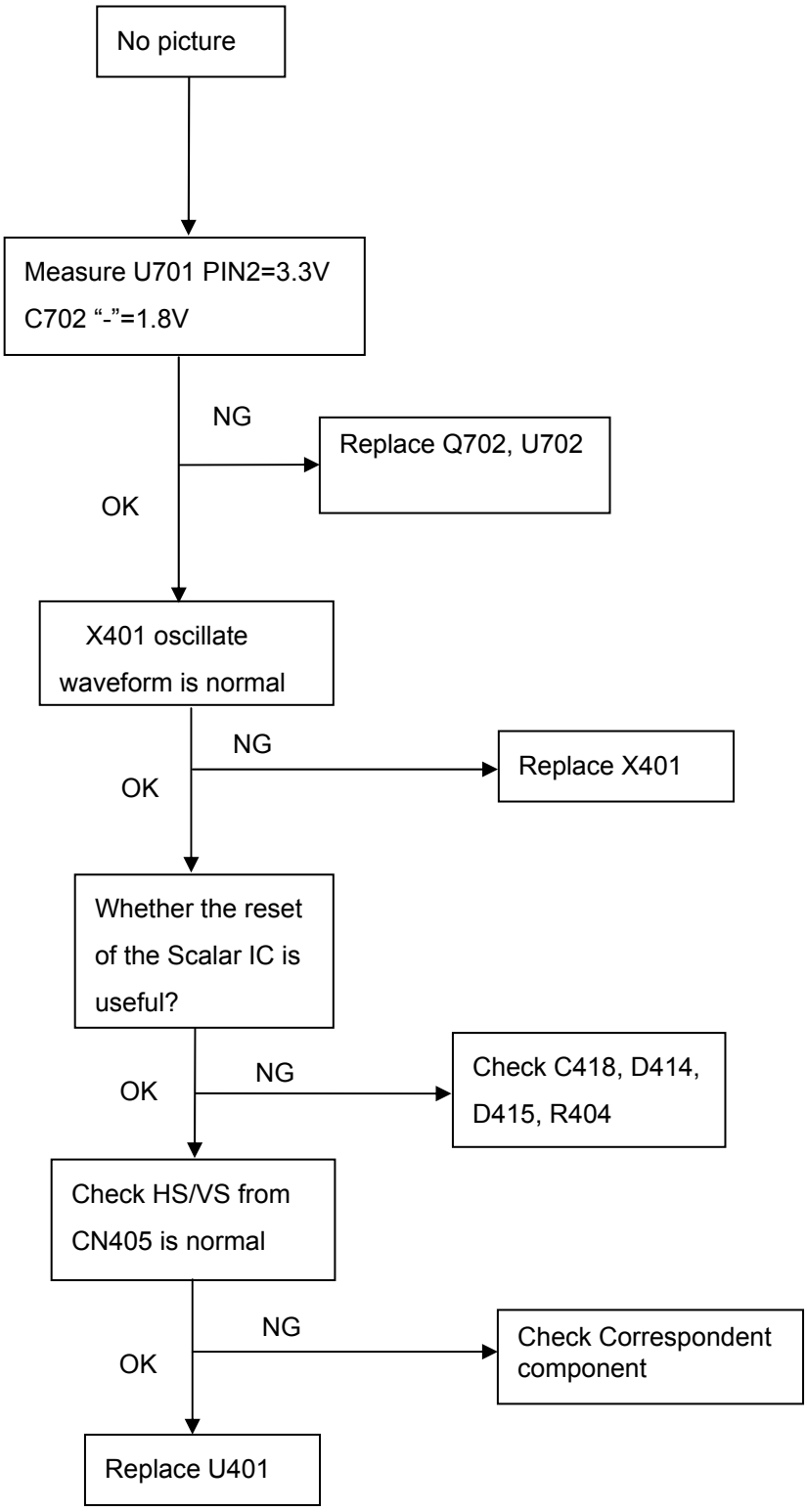
9.2 Trouble shooting

9.2.1 Main Board

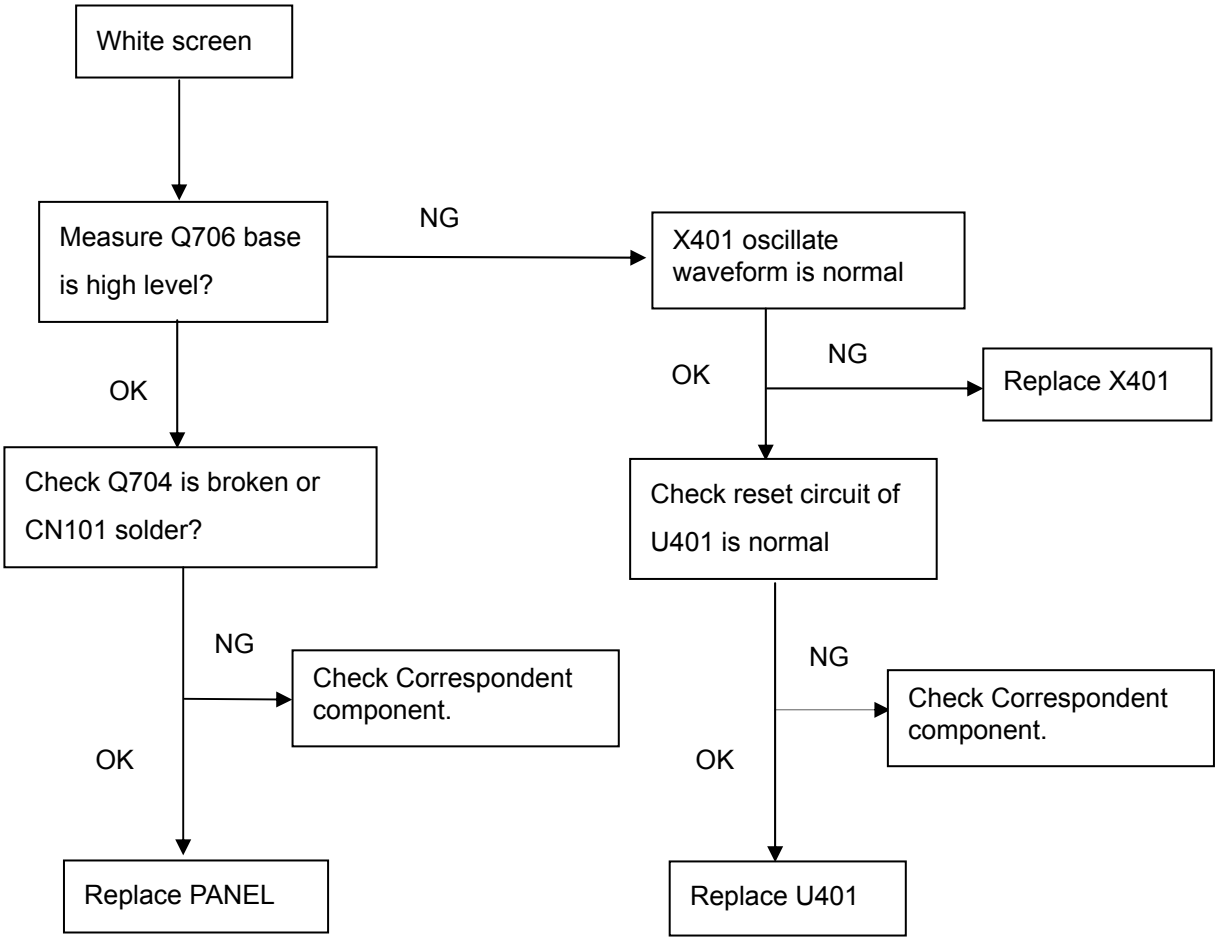
No power



No picture (LED orange)

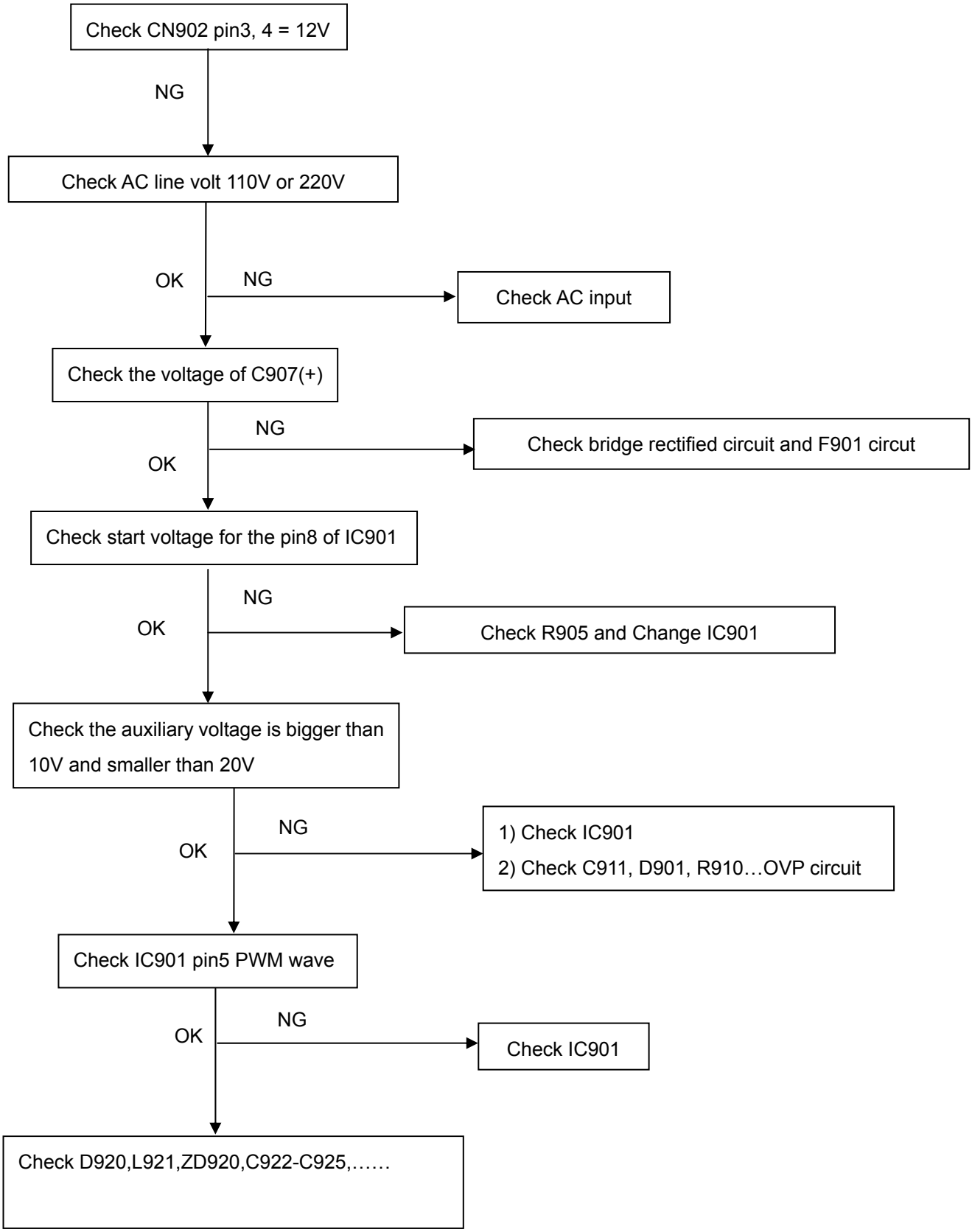


White screen

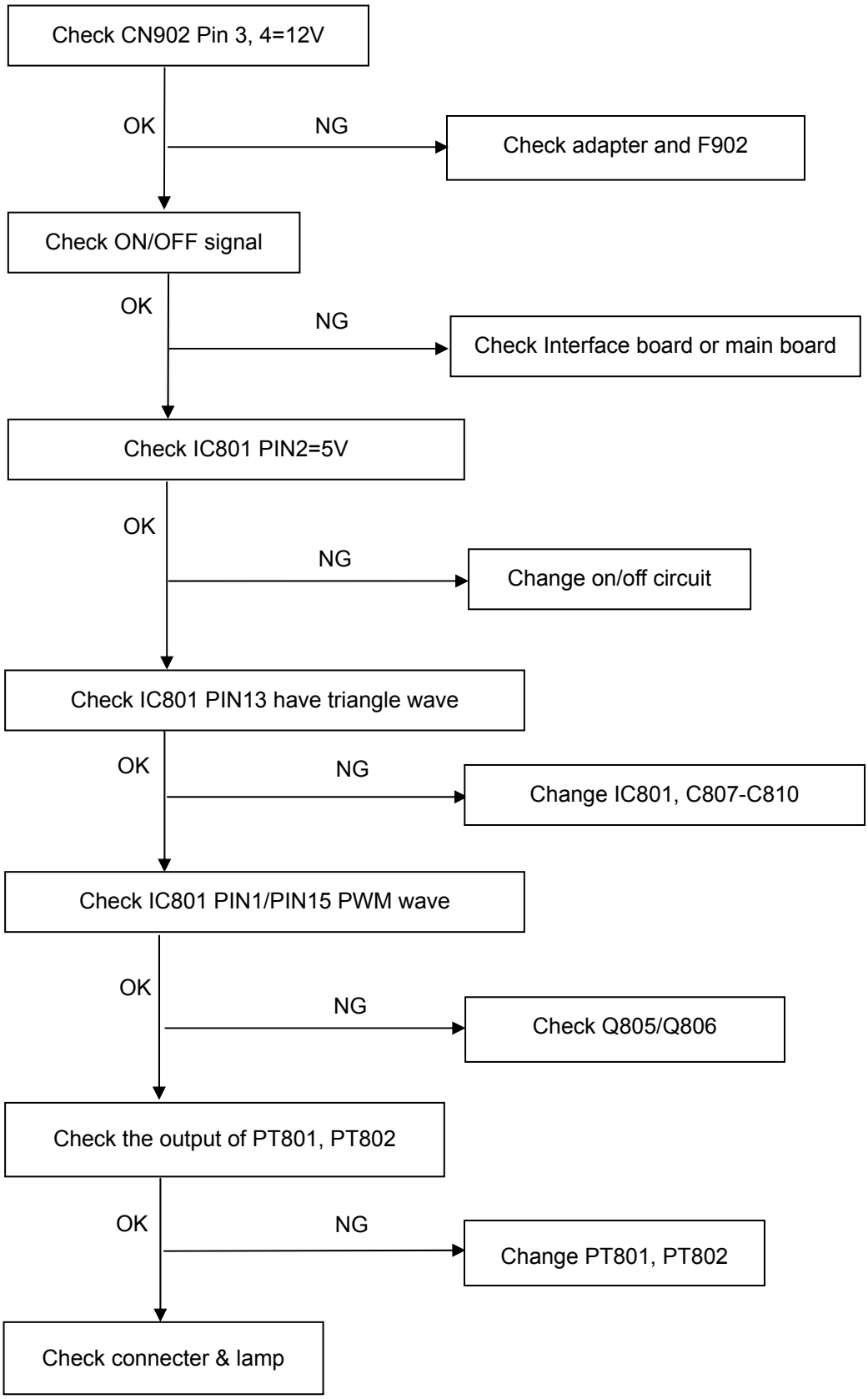


9.2.2 Power/Inverter Board

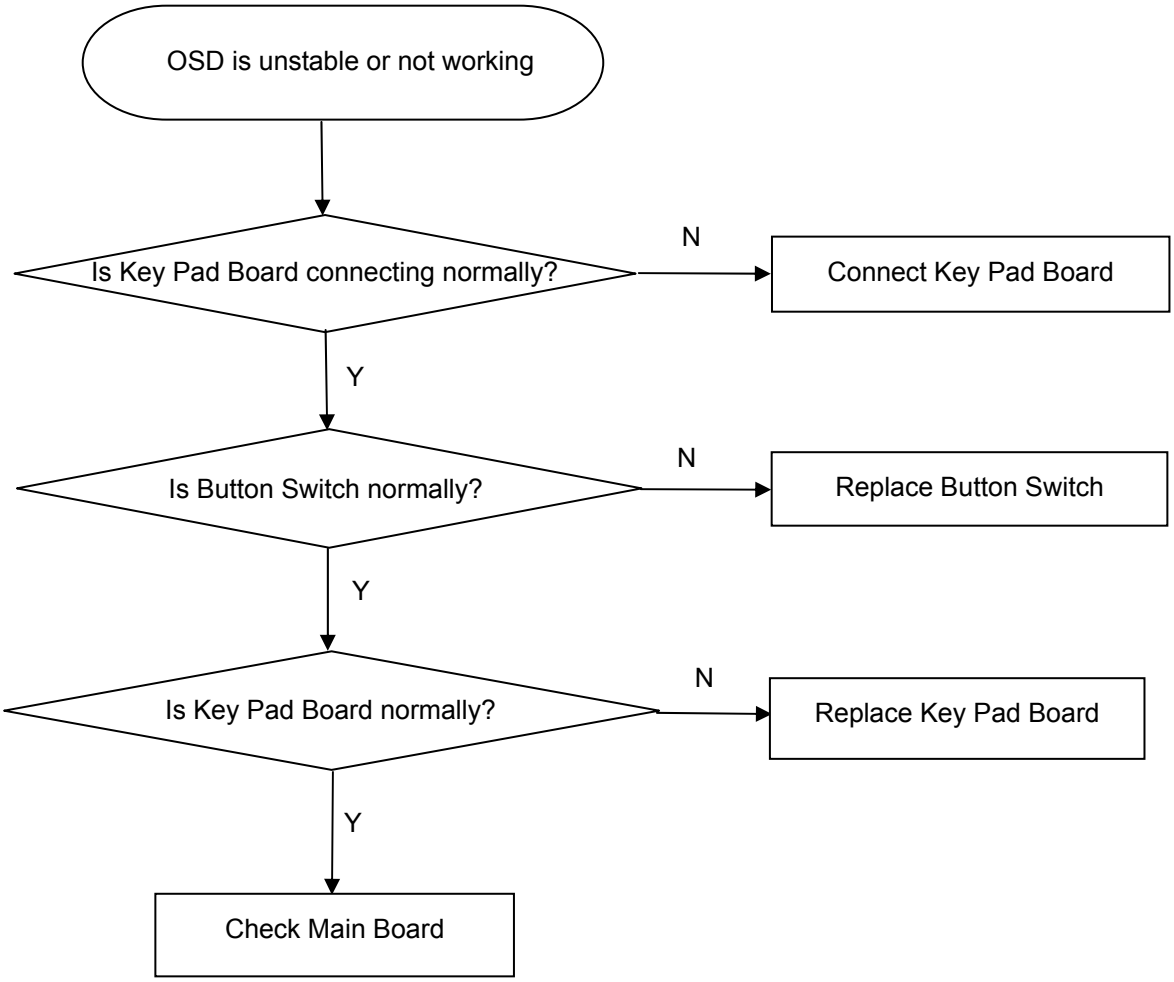
No power



No Backlight



9.2.3 Keypad Board



10. White balance, Luminance adjustment

Approximately 2 Hours should be allowed for warm up before proceeding White-Balance adjustment.

Before started adjust white balance, please setting the Chroma-7120 **MEM. Channel 3 to 6500^{0}K** colors, **MEM. Channel 4 to 9300^{0}K** colors, **MEM. Channel 9 to 5700^{0}K** (our 9300 parameter is x=283±30, y=297±30, Y = 180 ±20 cd/m^2 ； 6500 parameter is x =313±30, y=329±30, Y = 180 ±20 cd/m^2, and 5700 parameter is x = 326 ±30, y = 349 ±30, Y = 180 ±20 cd/m^2)

How to setting MEM.channel you can reference to Chroma-7120 user guide or simple use " **SC"** key and " **NEXT"** key to modify x, y, Y value and use **"ID"** key to modify the TEXT description Following is the procedure to do white-balance adjust

Enter into the factory mode:

Press MENU and "+" button during press Power button will activate the factory mode,

Gain adjustment:

Move cursor to "-Factory Setting-" and press MENU key to enter this sub-menu.

Move cursor to "Factory" and press MENU key.

Move cursor to " Auto Level" and press MENU key to adjust Gain and Offset automatically;

a. Adjust sRGB (6500^{0}K) color-temperature

1. Switch the Chroma-7120 to **RGB-mode** (with press "MODE" button)
2. Switch the MEM. channel to Channel 3 (with up or down arrow on Chroma-7120)
3. The LCD-indicator on Chroma-7120 will show x = 313 ±30, y = 329 ±30, Y = 180 ±20 cd/m^2

b. Adjust **Color1** (9300^{0}K) color-temperature

4. Switch the Chroma-7120 to **RGB-mode** (with press "MODE" button)
5. Switch the MEM.channel to Channel 4 (with up or down arrow on Chroma-7120)
6. The LCD-indicator on Chroma-7120 will show x = 283 ±30, y = 297 ±30， Y = 180 ±20 cd/m^2

c. Adjust **Color2** (5700^{0}K) color-temperature

7. Switch the Chroma-7120 to **RGB-mode** (with press "MODE" button)
8. Switch the MEM.channel to Channel 9 (with up or down arrow on Chroma-7120)
9. The LCD-indicator on Chroma-7120 will show x = 326 ±30, y = 349 ±30， Y = 180 ±20 cd/m^2
10. Move cursor to "Exit/Save" sub-menu and press MENU key to save adjust value and exit.

Turn the POWER-button off to on to quit from factory mode.

Max Brightness measurement: >230 cd/㎡

Test conditions:

a. Switch to the full white pattern, in user mode main menu:
   1. Set <Color Settings> Red, Green, and Blue to the max.
   2. Set <Brightness> Brightness, Contrast to the max.

b. The Minimum brightness is: **<** 40% of Max luminance (max luminance = max contrast + max brightness)

Test conditions:

Set <Brightness> Brightness, Contrast to the min.

11. ISP Instruction

Configure and procedure

It is a windows-based program, which cannot be run in MS-DOS.

System and equipment requirements

(1). An i486 (or above) personal computer or computer or compatible.

(2). Microsoft operation system Window 95/98/2000/XP.

(3). ISP Tool: ISP board/printer cable/VGA cable as shown in Fig.1

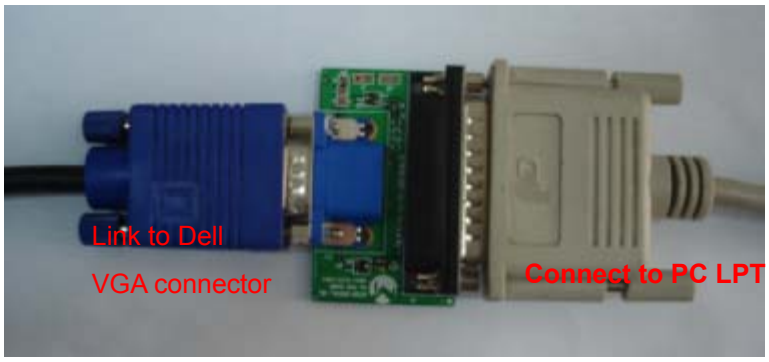
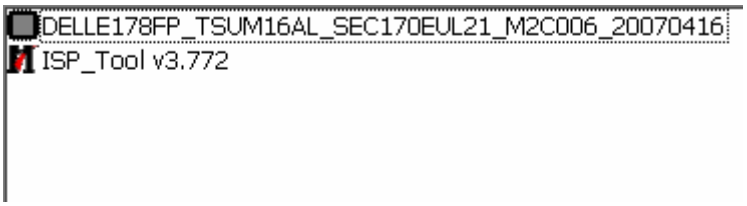


Fig.1

(4). ISP software checklist



(5). Update the firmware

Step 1: Double click the ISP_Tool v3.772.exe icon and click Connect, bring up Fig.2

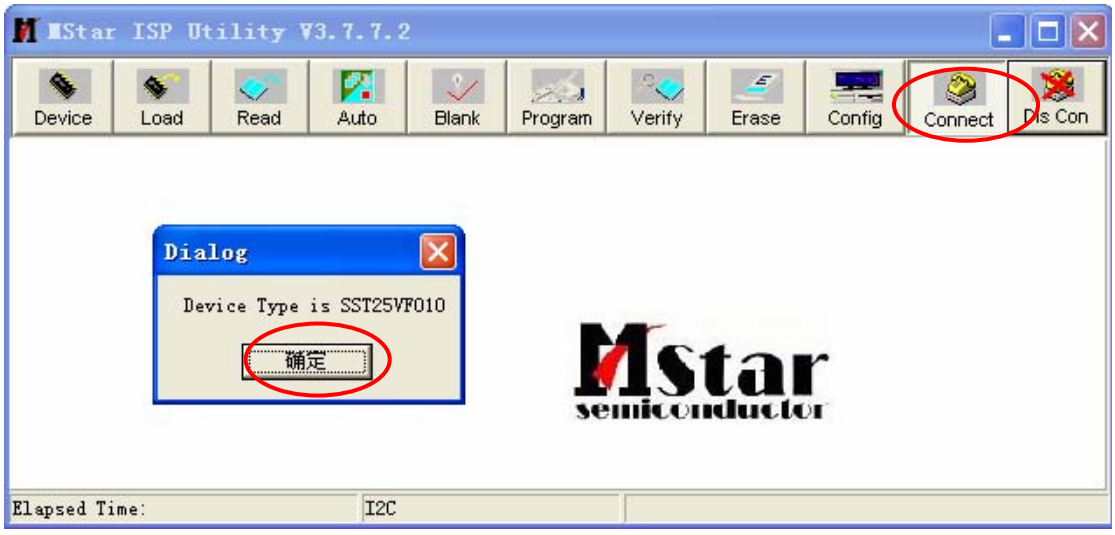


Fig.2

Step 2: Click OK and click Read, select program Bin file, bring up Fig.3

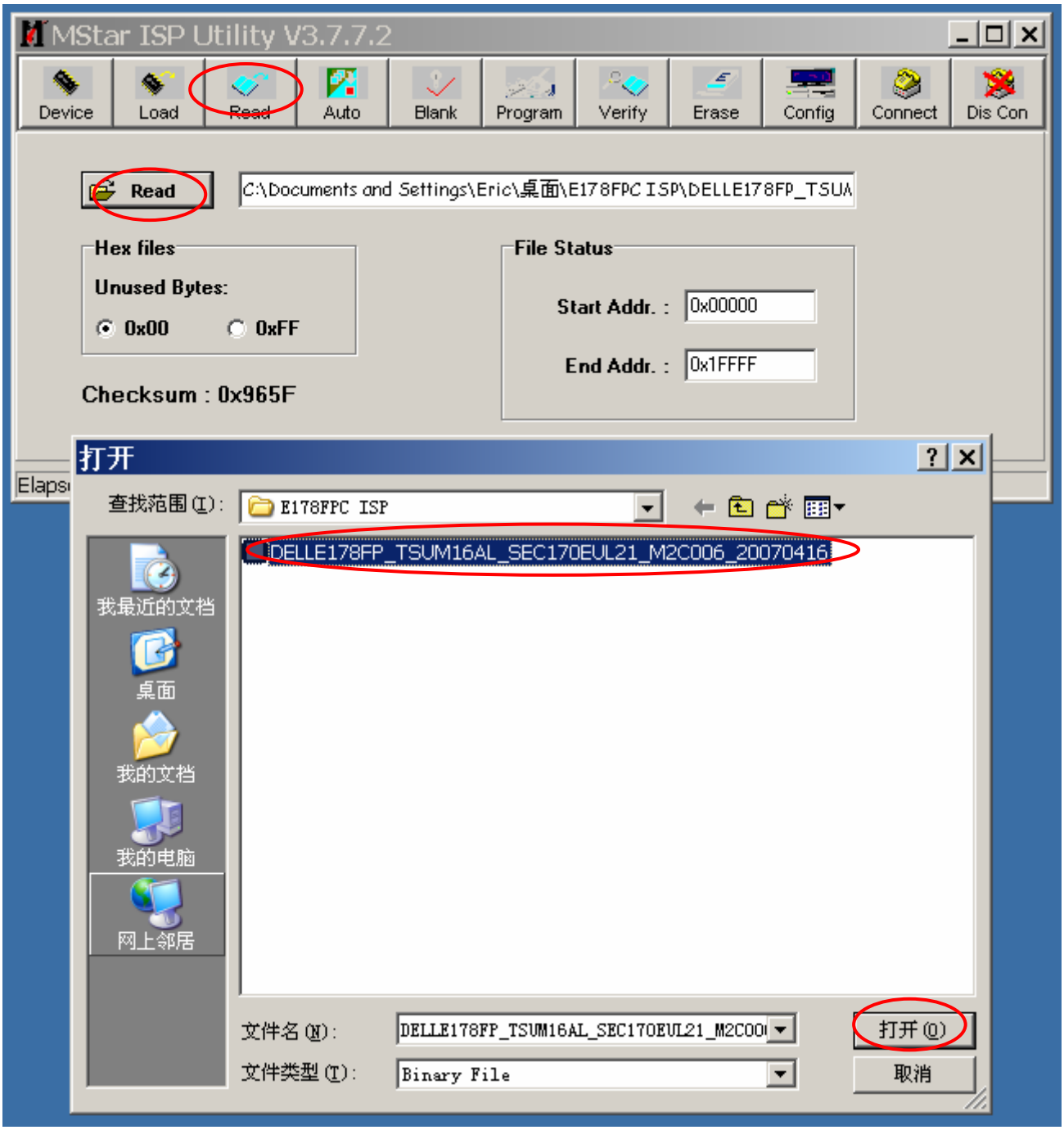


Fig.3

Step3: Click open and OK, bring up Fig.4 and Fig.5

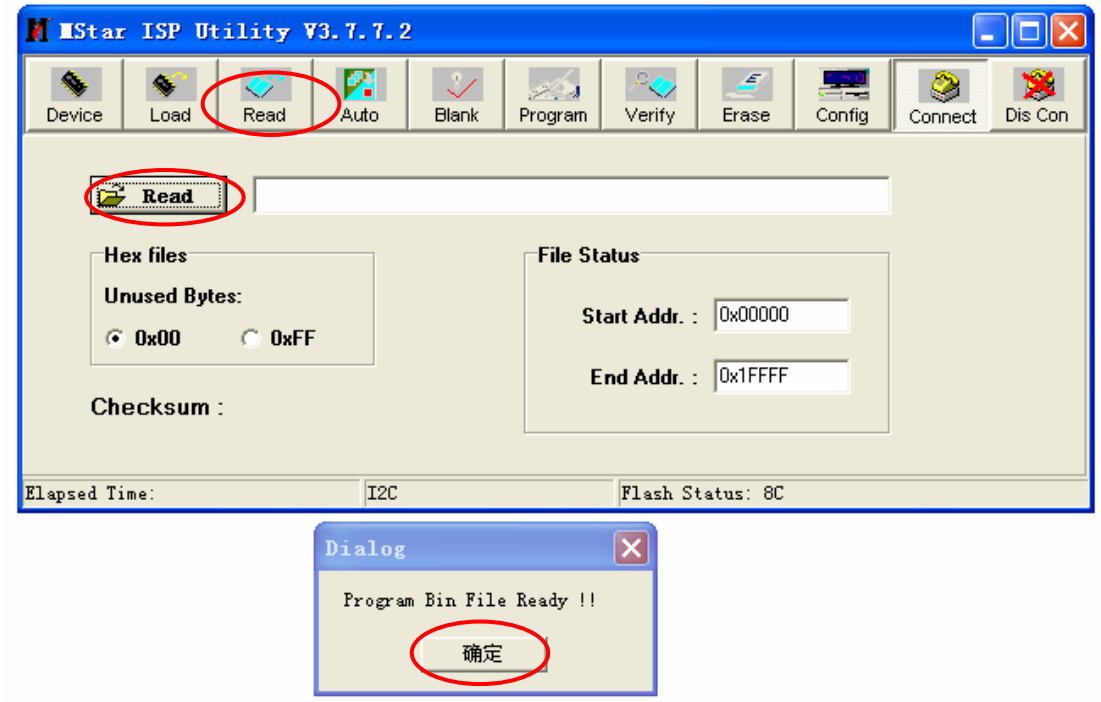


Fig.4

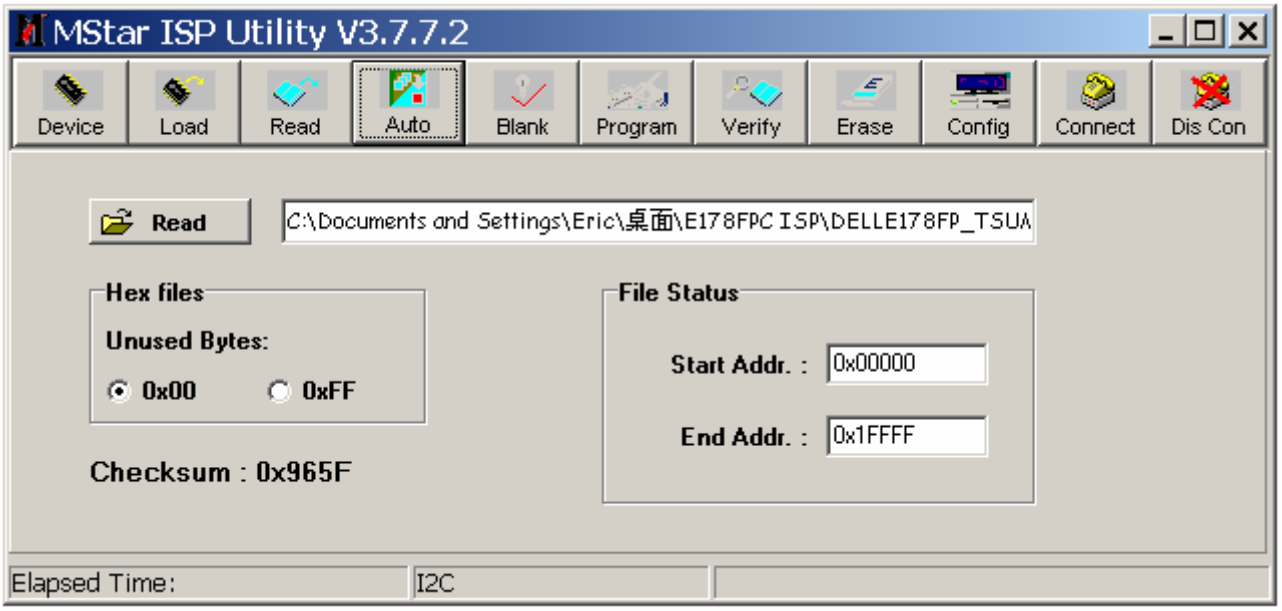


Fig.5

Step 4: Click Auto and Run, bring up Fig.6

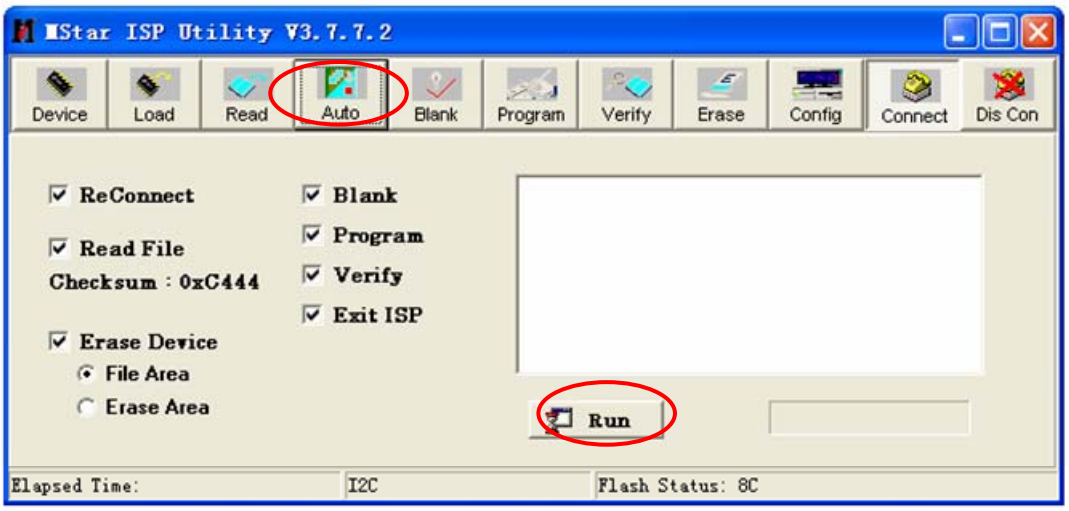


Fig.6

Step 5: When appear Verify OK, writer finished as shown Fig.7

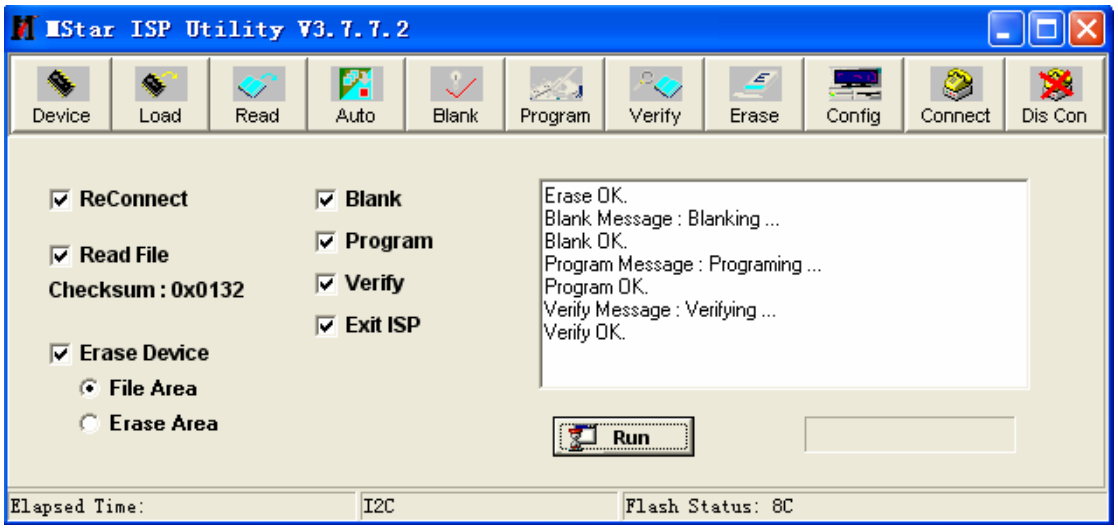
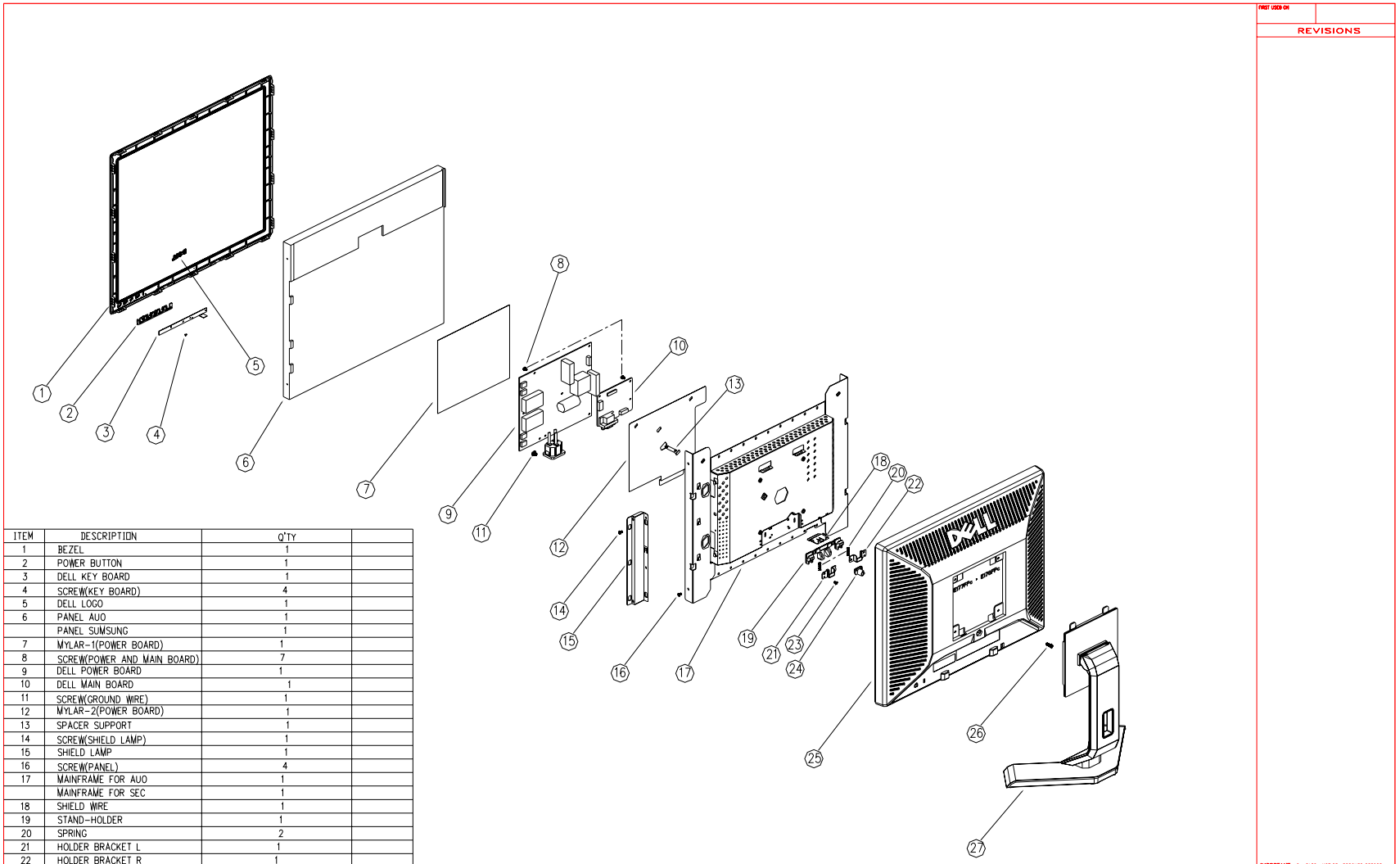


Fig.7

12. Exploded View



ITEM	DESCRIPTION	Q'TY	
1	BEZEL	1	
2	POWER BUTTON	1	
3	DELL KEY BOARD	1	
4	SCREW(KEY BOARD)	4	
5	DELL LOGO	1	
6	PANEL AUO	1	
	PANEL SUMSUNG	1	
7	MYLAR-1(POWER BOARD)	1	
8	SCREW(POWER AND MAIN BOARD)	7	
9	DELL POWER BOARD	1	
10	DELL MAIN BOARD	1	
11	SCREW(GROUND WIRE)	1	
12	MYLAR-2(POWER BOARD)	1	
13	SPACER SUPPORT	1	
14	SCREW(SHIELD LAMP)	1	
15	SHIELD LAMP	1	
16	SCREW(PANEL)	4	
17	MAINFRAME FOR AUO	1	
	MAINFRAME FOR SEC	1	
18	SHIELD WIRE	1	
19	STAND-HOLDER	1	
20	SPRING	2	
21	HOLDER BRACKET L	1	
22	HOLDER BRACKET R	1	
23	SCREW(STAND-HOLDER)	4	
24	RELEASE BUTTON	1	
25	REAR COVER	1	
26	SCREW(REAR COVER)	4	
27	HINGE	1	

13. BOM List

T76AM9HKFDDDN

Location	Part Number	Description
	011G6048 1	CLAMP-S
	011G6080 1	SPACER SUPPORT
	023G3178700 3A	logo
	026G 800700 6A	S/N LABEL
	044G3231 12 A	EVA WASHER
	044G3586 3EPE	EPE
	044G6002834 2A GP	PAPER BOARD
	044G9003100	CORNER PAPER
	044G9003119	COVNERPAPER
	044GSLIP10018A	PLASTIC SLIP SHEET
	052G 1186	SMALL TAPE
	052G6022 1500	SMALL TAPE
	052G6025 11848	MYLAR FOR POWER BOARD
	085G 702 1	SHIELD WIRE
E089B	089G 728GAA 2D	SIGNAL CABLE
E089A	089G402A18NISD	POWER CORD
	0M1G 330 4128 CR3	SCREW
	0M1G1740 6128 CR3	SCREW
	0M1G2940 10225 CR3	SCREW
	0M1G3030 5125	SCREW
	705GQ715002	MAIN FRAME ASS'Y(17")
	015G8185 1	HOLDER BRACKET R
	015G8186 1	HOLDER BRACKET L
	0M1G 130 5 47 CR3	SCREW
	Q15G0187 1	mainframe
	Q19G0004 1	SPRING
	Q20G6033 1	stand-holder
	705GQ787002	CN901 ASS'Y
	087G 501 14 RF	AC SOCKET
	095G 900584	WIRE HARNESS
	095G8021 3X549	WIRE HARNESS
	096G 29 6	H.S. TUBE
	750GLU70G1D12Z000D	PANEL M170EG01 VD00 ZBD DELL AUO
	CBPC6AM9DLQ1	CONVERSION BOARD
CN403	033G8019 8C JH	WAFER
CN701	033G8027 12	WAFER 2*6P 2.0MM R/A

CN101	033G8043 24 BH W	CONNECTOR
	040G 457624 1B	LABEL-CPU
	040G 45762412B	CBPC LABEL
C408	067G305V100 3	105℃ 10UF +-20% 16V
C418	067G305V100 3	105℃ 10UF +-20% 16V
C717	067G305V100 3	105℃ 10UF +-20% 16V
C710	067G305V101 3	105℃ 100UF M 16V
C702	067G405D4797PV	ELCAP 4.7UF M 50V
C403	067G405V100 3P	10UF 16V
C712	067G405V101 3P	CAP 105℃ 100UF M 16V
CN405	088G 35315F H	D-SUB 15PIN
X401	093G 22 53	CRYSTAL 14.318MHzHC-49US
U401	056G 562105	TSUM16AL-LF
U701	056G 585 4A	AP1117E33LA
U404	056G1133 34	M24C02-WMN6TP
U402	056G1133 74	SST25VF010A-33-4C-SAE
Q706	057G 417 12 T	KEC 2N3904S-RTK/PS
Q703	057G 417 12 T	KEC 2N3904S-RTK/PS
Q701	057G 417 12 T	KEC 2N3904S-RTK/PS
Q402	057G 417 12 T	KEC 2N3904S-RTK/PS
Q403	057G 417 13 T	KEC 2N3906S-RTK/PS
Q401	057G 417 13 T	KEC 2N3906S-RTK/PS
Q702	057G 417 23 T	TRA PZT2907AT1G SOT-223
Q704	057G 763 1A	AP2305N
R721	061G0603000	RST CHIPR 0 OHM +-5% 1/10W
R460	061G0603000	RST CHIPR 0 OHM +-5% 1/10W
R461	061G0603000	RST CHIPR 0 OHM +-5% 1/10W
R462	061G0603000	RST CHIPR 0 OHM +-5% 1/10W
R441	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R442	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R443	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R445	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R453	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R454	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R478	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R704	061G0603101	RST CHIPR 100 OHM +-5% 1/10W
R446	061G0603102	RST CHIP 1K 1/10W 5%
R447	061G0603102	RST CHIP 1K 1/10W 5%
R455	061G0603102	RST CHIP 1K 1/10W 5%
R701	061G0603102	RST CHIP 1K 1/10W 5%

R404	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R406	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R408	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R413	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R415	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R416	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R444	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R727	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R450	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R483	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R484	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R708	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R711	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R714	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R451	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R452	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R482	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R481	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R479	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R717	061G0603103	RST CHIPR 10 KOHM +-5% 1/10W
R474	061G0603182	RST CHIPR 1.8 KOHM +-5% 1/10W
R475	061G0603182	RST CHIPR 1.8 KOHM +-5% 1/10W
R477	061G0603182	RST CHIPR 1.8 KOHM +-5% 1/10W
R476	061G0603182	RST CHIPR 1.8 KOHM +-5% 1/10W
R703	061G0603202	RST CHIPR 2 KOHM +-5% 1/10W
R405	061G0603203	RST CHIPR 20 KOHM +-5% 1/10W
R409	061G0603221	RST CHIPR 220 OHM +-5% 1/10W
R414	061G0603221	RST CHIPR 220 OHM +-5% 1/10W
R419	061G0603221	RST CHIPR 220 OHM +-5% 1/10W
R421	061G0603221	RST CHIPR 220 OHM +-5% 1/10W
R448	061G0603222	RST CHIPR 2.2 KOHM +-5% 1/10W
R449	061G0603222	RST CHIPR 2.2 KOHM +-5% 1/10W
R403	061G0603391	RST CHIPR 390 OHM +-5% 1/10W
R422	061G0603472	RST CHIPR 4.7KOHM +-5% 1/10W
R423	061G0603472	RST CHIPR 4.7KOHM +-5% 1/10W
R705	061G0603472	RST CHIPR 4.7KOHM +-5% 1/10W
R707	061G0603472	RST CHIPR 4.7KOHM +-5% 1/10W
R712	061G0603472	RST CHIPR 4.7KOHM +-5% 1/10W
R725	061G0603472	RST CHIPR 4.7KOHM +-5% 1/10W
R702	061G0603510	RST CHIPR 51 OHM +-5% 1/10W

R723	061G0603513	RST CHIPR 51 KOHM +-5% 1/10W
R434	061G0603560	RST CHIPR 56 OHM +-5% 1/10W
R435	061G0603560	RST CHIPR 56 OHM +-5% 1/10W
R436	061G0603560	RST CHIPR 56 OHM +-5% 1/10W
R438	061G0603750 9F	RST CHIPR 75 OHM +-1% 1/10W
R439	061G0603750 9F	RST CHIPR 75 OHM +-1% 1/10W
R440	061G0603750 9F	RST CHIPR 75 OHM +-1% 1/10W
C426	065G040210232T	0402 MLCC 1000PF K 50V
C427	065G040210232T	0402 MLCC 1000PF K 50V
C428	065G040210232T	0402 MLCC 1000PF K 50V
C431	065G040210232T	0402 MLCC 1000PF K 50V
C410	065G040210415T	0402 MLCC 0.1UF K 16V
C411	065G040210415T	0402 MLCC 0.1UF K 16V
C409	065G040210415T	0402 MLCC 0.1UF K 16V
C407	065G040210415T	0402 MLCC 0.1UF K 16V
C406	065G040210415T	0402 MLCC 0.1UF K 16V
C405	065G040210415T	0402 MLCC 0.1UF K 16V
C404	065G040210415T	0402 MLCC 0.1UF K 16V
C718	065G040210415T	0402 MLCC 0.1UF K 16V
C715	065G040210415T	0402 MLCC 0.1UF K 16V
C713	065G040210415T	0402 MLCC 0.1UF K 16V
C445	065G040210415T	0402 MLCC 0.1UF K 16V
C444	065G040210415T	0402 MLCC 0.1UF K 16V
C441	065G040210415T	0402 MLCC 0.1UF K 16V
C440	065G040210415T	0402 MLCC 0.1UF K 16V
C439	065G040210415T	0402 MLCC 0.1UF K 16V
C430	065G040210415T	0402 MLCC 0.1UF K 16V
C429	065G040210415T	0402 MLCC 0.1UF K 16V
C422	065G040210415T	0402 MLCC 0.1UF K 16V
C419	065G040210415T	0402 MLCC 0.1UF K 16V
C416	065G040210415T	0402 MLCC 0.1UF K 16V
C415	065G040210415T	0402 MLCC 0.1UF K 16V
C414	065G040210415T	0402 MLCC 0.1UF K 16V
C413	065G040210415T	0402 MLCC 0.1UF K 16V
C412	065G040210415T	0402 MLCC 0.1UF K 16V
C402	065G040210415T	0402 MLCC 0.1UF K 16V
C401	065G040210415T	0402 MLCC 0.1UF K 16V
C421	065G040222031T	0402 MLCC 22PF J 50V
C423	065G040222031T	0402 MLCC 22PF J 50V
C442	065G040222031T	0402 MLCC 22PF J 50V

C443	065G040222031T	0402 MLCC 22PF J 50V
C417	065G0402224A5T	MLCC 0402 0.22UF K 10V X
C432	065G040247312T	0402 MLCC 47NF K 16V
C433	065G040247312T	0402 MLCC 47NF K 16V
C434	065G040247312T	0402 MLCC 47NF K 16V
C436	065G040247312T	0402 MLCC 47NF K 16V
C437	065G040247312T	0402 MLCC 47NF K 16V
C438	065G040247312T	0402 MLCC 47NF K 16V
C714	065G0603104 12	CER2 0603 X7R 16V 100N P
C709	065G0603104 12	CER2 0603 X7R 16V 100N P
FB406	071G 56Z601	CHIP BEAD 600 OHM 0805
FB405	071G 56Z601	CHIP BEAD 600 OHM 0805
FB404	071G 56Z601	CHIP BEAD 600 OHM 0805
FB403	071G 56Z601	CHIP BEAD 600 OHM 0805
FB402	071G 56Z601	CHIP BEAD 600 OHM 0805
FB401	071G 56Z601	CHIP BEAD 600 OHM 0805
FB409	071G 59B121	TB160808B
D415	093G 39147SEM	ZMM5V6ST
D413	093G 39147SEM	ZMM5V6ST
D412	093G 39147SEM	ZMM5V6ST
D406	093G 39147SEM	ZMM5V6ST
D408	093G 39147SEM	ZMM5V6ST
D409	093G 39147SEM	ZMM5V6ST
D410	093G 39147SEM	ZMM5V6ST
D411	093G 39147SEM	ZMM5V6ST
D407	093G 60230	BAT54C(L43)
D414	093G 6432P	LL4148
D701	093G 6432P	LL4148
D702	093G 6432P	LL4148
D404	093G 6433P	BAV99
D405	093G 6433P	BAV99
D403	093G 6433P	BAV99
D704	093G2004 2	SR24/PANJIT-SMT
	715G1565 2 2	MAIN BOARD PCB
	KEPC6QB2	KEY G1564-1G-X-DEL-1-070329
	052G6022 20	SMALL TAPE
SW1	077G 500 4 CJ	DOME SWITCH 4PCS ARRAY
CN1	089G176J 8519	FFC CABLE
	Q52G6022 28	TAPE
LED01	081G 14501 GP	LED GPTD1210YGC3-HB GUANGPU

	715G1564 1 3	KEY BOARD PCB
	PWPC742AD8P	POWER BOARD
CN804	033G8021 2E U	WAFER
CN803	033G8021 2E U	WAFER
CN802	033G8021 2E U	WAFER
CN801	033G8021 2E U	WAFER
CN901	033G8029 3A H	B2P3S-VH
	040G 45762412B	CBPC LABEL
	051G 6 4503	RTV
IC902	056G 139 3A	PC123Y22FZOF
NR901	061G 58080 WT	8 OHM NCT
R916	061G152M438 64	RST MOFR 0.43OHM +-5% 2WS
C909	063G107K474 HS	X2 CAP 0.47UF K 275VAC
C817	065G 3J3096ET	3PF,J,3KV,Z5P
C826	065G 3J3096ET	3PF,J,3KV,Z5P
C816	065G 6J1506ET	15PF 5% SL 6KV
C825	065G 6J1506ET	15PF 5% SL 6KV
C901	065G305M2222EM	2200PF+-20% 250VAC/400VAC
C902	065G305M2222EM	2200PF+-20% 250VAC/400VAC
C905	065G306M4722BP	4700PF +-20% 400VAC
C811	067G215D4714KV	EC 105℃ CAP 470UF M 25V
C820	067G215D4714KV	EC 105℃ CAP 470UF M 25V
C925	067G215D4714KV	EC 105℃ CAP 470UF M 25V
C922	067G215D6814KV	CAP 105℃ 680uF M 25V
C923	067G215D6814KV	CAP 105℃ 680uF M 25V
C924	067G215D6814KV	CAP 105℃ 680uF M 25V
C907	067G215S10115N	PAG450VB100-M-L18*35.5MM
C926	067G215S1023KV	105℃ 1000UF M 16V
C927	067G215S4713KV	EC 105℃ CAP 470UF M 16V
L901	073L 174 50 LH	LINE FILTER
BD901	093G 50460 8P	BRIDGE DIODE 2KBP08M PANJIT
D922	093G3006 1 1	31DQ06FC3 NIHON INTER
CN902	095G801412X602	WIRE HARNESS
R909	705G 909 11 06	R909 ASS'Y
R909	061G152M10458F	100K OHM 5% 2W
	096G 29 6	H.S. TUBE
D920	705GQ793003	D920 ASS'Y
HS3 D920	090G6264 2	HEAT SINK
D920	093G 60239	FME-210B T0-220
	0M1G1730 8128 CR3	SCREW

Q900	705GQ7K0 57005	Q900 ASS'Y
Q900	057G 600 35	STP8NK80ZFP
HS4 Q900	090G6264 2	HEAT SINK
	0M1G1730 8128 CR3	SCREW
IC901	056G 379 61	LD7575PS SOP-8
IC801	056G 608 10	IC OZ9938GN-B SOIC-16
Q803	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q802	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q801	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q806	057G 763 14	AM9945N
Q805	057G 763 14	AM9945N
RJ803	061G0805000	0 OHM 1/10W
R842	061G0805100	10 OHM 1/10W
R837	061G0805100	10 OHM 1/10W
R911	061G0805100 3F	RST CHIPR 100KOHM +-1% 1/8W
R836	061G0805102	CHIP 1KOHM 1/10W
R843	061G0805102	CHIP 1KOHM 1/10W
R913	061G0805102	CHIP 1KOHM 1/10W
R925	061G0805102	CHIP 1KOHM 1/10W
R927	061G0805102	CHIP 1KOHM 1/10W
R930	061G0805102	CHIP 1KOHM 1/10W
R803	061G0805103	10 KOHM 1/10W
R812	061G0805103	10 KOHM 1/10W
R915	061G0805103	10 KOHM 1/10W
R923	061G0805103	10 KOHM 1/10W
R810	061G0805104	RST CHIP 100K 1/8W 5%
R815	061G0805104	RST CHIP 100K 1/8W 5%
R821	061G0805104	RST CHIP 100K 1/8W 5%
R831	061G0805104	RST CHIP 100K 1/8W 5%
R816	061G0805104	RST CHIP 100K 1/8W 5%
R813	061G0805105	1MOHM 1/10W
R811	061G0805105	1MOHM 1/10W
R830	061G0805153	RST CHIPR 15KOHM +-5% 1/8W
R820	061G0805153	RST CHIPR 15KOHM +-5% 1/8W
C808	061G0805183	RST CHIPR 18 KOHM +-5% 1/8W
R929	061G0805240 1F	2.4KOHM 1/10W 1%
R817	061G0805330 2F	33 KOHM 1/10W 1%
R926	061G0805330 2F	33 KOHM 1/10W 1%
R827	061G0805360 1F	3.6KOHM 1/10W 1%
R834	061G0805360 1F	3.6KOHM 1/10W 1%

R924	061G0805360 1F	3.6KOHM 1/10W 1%
R826	061G0805391	390 OHM 1/10W 1%
R841	061G0805431	RST CHIPR 430 OHM +-5% 1/8W
R825	061G0805561	560 0805
R835	061G0805561	560 0805
R814	061G0805563	56KOHM 1/10W
F903	061G1206000	0 OHM 1/8W
RJ801	061G1206000	0 OHM 1/8W
RJ802	061G1206000	0 OHM 1/8W
RJ804	061G1206000	0 OHM 1/8W
RJ901	061G1206000	0 OHM 1/8W
RJ902	061G1206000	0 OHM 1/8W
F902	061G1206000 4	RST CHIPR 0 OHM +-5% 1/4W
R912	061G1206100	RST CHIP 10R 1/4W 5%
R808	061G1206100 3F	RST CHIPR 100 KOHM +-1% 1/4W
R804	061G1206103	10 KOHM 1/8W
R905	061G1206103	10 KOHM 1/8W
R931	061G1206103	10 KOHM 1/8W
R818	061G1206150	15 OHM 1/8W
R819	061G1206150	15 OHM 1/8W
R828	061G1206150	15 OHM 1/8W
R829	061G1206150	15 OHM 1/8W
R807	061G1206220	RST CHIPR 22 OHM +-5% 1/4W
R802	061G1206304	300 KOHM 1/8W
R902	061G1206334	330KOHM 1/8
R901	061G1206334	330KOHM 1/8
R900	061G1206334	330KOHM 1/8
R955	061G1206470	47 1206
R954	061G1206470	47 1206
R952	061G1206470	47 1206
R951	061G1206470	47 1206
R805	061G1206471	470 1206
R910	061G1206759	7R5 OHM 1/8W
C805	065G0805102 32	CHIP 1000P 50VX7R 0805
C807	065G0805103 32	10NF/50V/0805/X7R
C931	065G0805104 32	CHIP 0.1U 50V X7R
C930	065G0805104 32	CHIP 0.1U 50V X7R
C929	065G0805104 32	CHIP 0.1U 50V X7R
C928	065G0805104 32	CHIP 0.1U 50V X7R
C916	065G0805104 32	CHIP 0.1U 50V X7R

C912	065G0805104 32	CHIP 0.1U 50V X7R
C806	065G0805105 22	CHIP 1UF 25V X7R 0805
C813	065G0805152 32	CHIP 1500PF 50V X7R 0805
C812	065G0805152 32	CHIP 1500PF 50V X7R 0805
C822	065G0805152 32	CHIP 1500PF 50V X7R 0805
C823	065G0805152 32	CHIP 1500PF 50V X7R 0805
C831	065G0805221 32	CHIP 220PF 50V X7R 0805
C833	065G0805221 32	CHIP 220PF 50V X7R 0805
C913	065G0805221 32	CHIP 220PF 50V X7R 0805
C804	065G0805225 12	CHIP 2.2UF 16V X7R 0805
C818	065G0805271 31	MLCC 0805 270PF J 50V NP0
C827	065G0805271 31	MLCC 0805 270PF J 50V NP0
C914	065G0805471 22	470PF 25V
C819	065G0805473 22	SMD 47nf +-10%25V XTR
C809	065G0805473 32	CHIP 0.047UF 50V X7R
C810	065G0805561 31	CHIP 560PF 50V NPO 0805
D802	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D804	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D801	093G 64 42 PP	BAV70 SOT-23
D803	093G 64 42 PP	BAV70 SOT-23
D916	093G 64 44 S	LL4148WP
D915	093G 64 44 S	LL4148WP
D910	093G 64 44 S	LL4148WP
ZD801	093G 39S 24 T	RLZ 5.6B LLDS
ZD922	093G 39S 25 T	RLZ5.1B LLDS
ZD920	093G 39S 38 T	PTZ 9.1B
ZD921	093G 39S 40 T	RLZ 13B LLDS
CN901	006G 31500	EYELET
T901	006G 31502	1.5MM RIVET
Q900	006G 31502	1.5MM RIVET
PT802	006G 31502	1.5MM RIVET
PT801	006G 31502	1.5MM RIVET
NR901	006G 31502	1.5MM RIVET
L902	006G 31502	1.5MM RIVET
L901	006G 31502	1.5MM RIVET
C907	006G 31502	1.5MM RIVET
IC921	056G 158 12	KIA431A-AT/P TO-92
R928	061G 17210252T	1K OHM 5% 1/4W
R922	061G 17247152T	470OHM 5% 1/4W
R832	061G212Y305 KT	MGFR 3M OHM +-5% 1/2W

R822	061G212Y305 KT	MGFR 3M OHM +-5% 1/2W
C910	065G 1K152 1T6052	1.5nF /1K Y5P+-10%
C921	065G517K102 5T	1000PF 10% Y5P 500V
C920	065G517K102 5T	1000PF 10% Y5P 500V
C911	067G215D2207KT	CAP 105℃ 22UF M 50V
F901	084G 55 2	FUSE 2.5A 250V MET2.50 BY CONQUER
D900	093G 6026W52T	FR107
D901	093G1020 752T	UF4003PT DO-41 CHENMKO
	715G1492 1DEL	POWER BOARD PCB
	Q52G6025 13111	MYLAR
	034FPE19P03	CASE EEL19
	034FPE19P03	CASE EEL19
	Q01G6019 2	SCREW
	Q01G6019 2	SCREW
	Q33G0122 SNA1L	BUTTON FUNC
	Q33G0123 VH 1L	BUTTON RELEASE
	Q34G0156 VH 1B 30	REAR COVER(17")
	Q34G0170 VHA1B	BEZEL L1706-DELL
	Q37G0048 1	HINGE
	Q40G 17N70011A	rating label
	Q40G0001700 4A	DELL carton label
	Q41G780070091A	E178FP PIG DAO
	Q41G780070094A	E178FP QSG
	Q44G7046 1	EPS
	Q44G7046 2	EPS
	Q44G7046700 1B	CARTON
	Q45G 88606 8 R	pe bag
	Q45G 88607DE8 R	PE BAG FOR MONITOR
	Q50G 505 17	BAND
	Q52G6020 34	PROTECT FILM
	Q70G1700700 6A	cd manual
	Q85G0049 1	shield lamp
	S95G80183621	LVDS ASS'Y
	033F206H24JWT2	A2006H00-2*12PHKL
	033F303SM24K30	PK2407P30/TD00-30LH
	071FW100001017	10.5*6.5*30+H/S
	033F206T2JWTOP	A2006TOP-2
	033F303TTD1	TD00-T 2407PS-00

14. Different Parts List

Diversity Of T76AM9HKFDDGN Compared With T76AM9HKFDDDN		
Location	**Part No.**	**Description**
	750GLU70G1D22Z000D	PANEL M170EG01 VD0A ZBD DELL AUO

Diversity Of T76SM9HKFDDDN Compared With T76AM9HKFDDDN		
Location	**Part No.**	**Description**
E089B	089G 728LAA 2D	SIGNAL CABLE
E089A	089G402A18NYHD	POWER CORD
	0M1G3030 4125	SCREW
	705GQ715001	MAIN FRAME ASS'Y(17")
	Q15G0187 2	mainframe
	750GLS70U3131Z000D	PANEL LTM170EU-L31 CN1 ZBD SEC
	CBPC6SM9DLQ1	CONVERSION BOARD

Diversity Of T76SM9HKFDDGN Compared With T76AM9HKFDDDN		
Location	**Part No.**	**Description**
E089B	089G 728LAA 2D	SIGNAL CABLE
E089A	089G402A18NYHD	POWER CORD
	0M1G3030 4125	SCREW
	705GQ715001	MAIN FRAME ASS'Y(17")
	Q15G0187 2	mainframe
	750GLS70U3141Z000D	PANEL LTM170EU-L31 CL1 ZBD SEC
	CBPC6SM9DLQ1	CONVERSION BOARD